WONDER Stories Quarterly

FALL 1930

A GERNSBACK PUBLICATION

HUGO GERNSBACK
Editor

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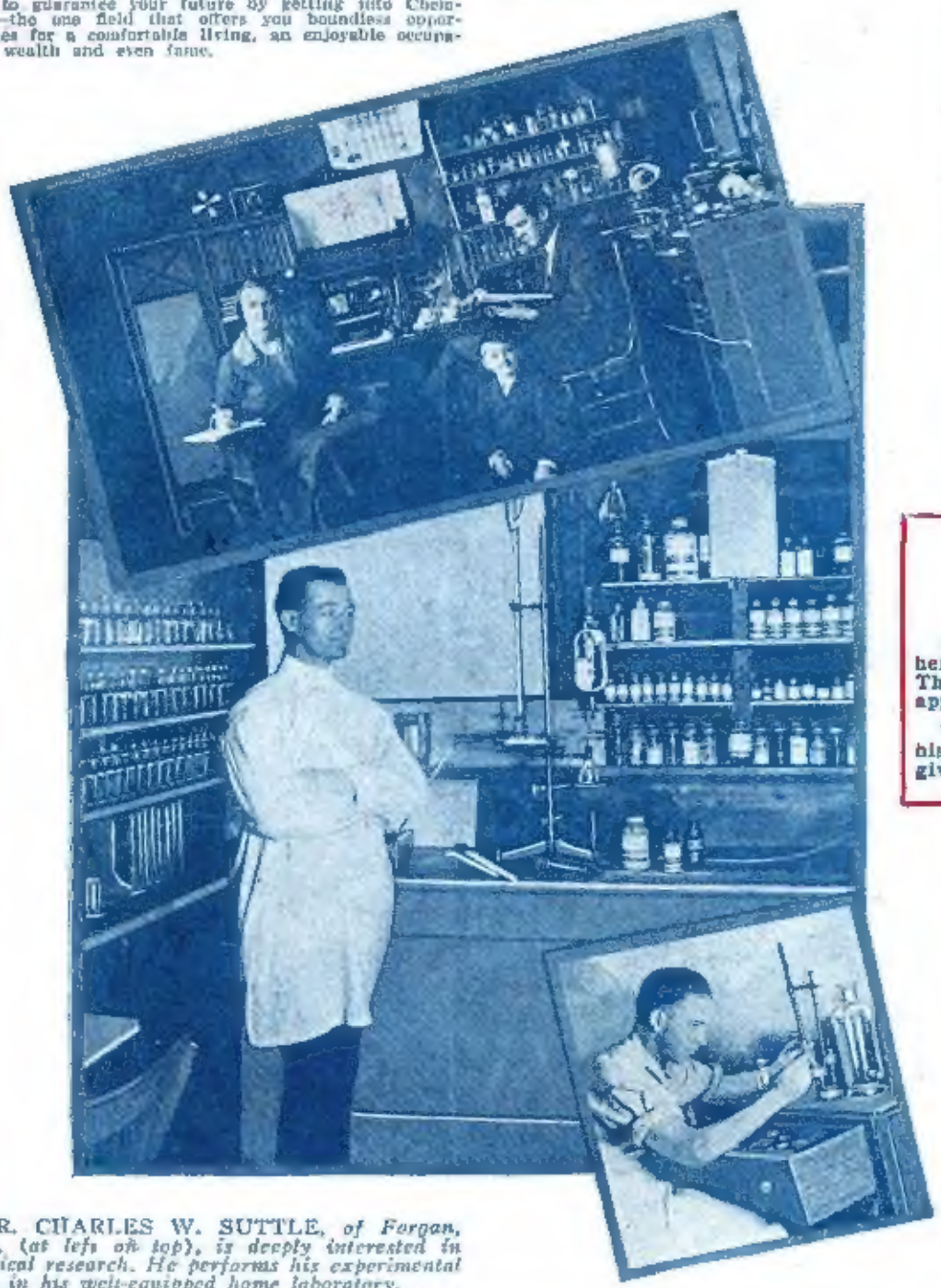

MR. CHARLES W. SUTTLE, *of Fergan, Okla. (at left on top), is deeply interested in chemical research. He performs his experimental work in his well-equipped home laboratory.*

MR. O. T. D. BRANDT, *of Seattle, Wash. (center photograph), is an analytical chemist of demonstrated ability. In his home he has equipped a laboratory containing several thousand dollars' worth of equipment, bought entirely with earnings from spare-time work while he was taking our course.*

MR. VIRGIL REDGATE, *of Hutchinson, Kans. (bottom right-hand photo), began doing professional analysis on commission, even before he completed his course. He is also the inventor of several devices and processes used in photography.*

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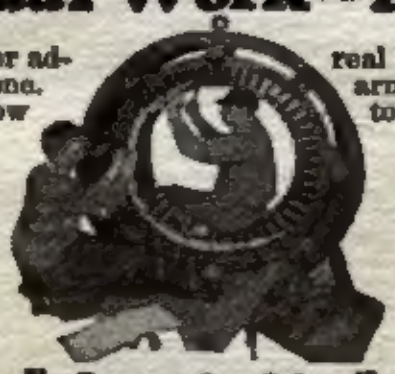

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PUBLICATION OFFICE:
404 North Wesley Ave., Mt. Morris, Ill.
Published by
STELLAR PUBLISHING CORPORATION
H. GERNSBACK, *Pres.*
I. S. MANHEIMER, *Sec'y* S. GERNSBACK, *Treas.*

Vol. 2 No. 1

FALL 1930

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OUR COVER ILLUSTRATION

shows a scene from Hanstein's "Between Earth and Moon." We see our doomed interplanetary travelers watching in fear as the flaming messenger from the sky hits the moon. But "it's an ill wind," as they say, and this heavenly projectile may yet be the means of saving them.

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WONDER STORIES QUARTERLY is published on the 15th day of September, December, March and June, 4 numbers per year. Subscription price is $1.75 a year in United States and its possessions. In Canada and foreign countries, $2.00 a year. Single copies 50c. Address all editorial communications to Editor, WONDER STORIES QUARTERLY, 96-98 Park Place, New York. Publishers are not responsible for lost Mss. Contributions cannot be returned unless authors remit full postage.
WONDER STORIES QUARTERLY is for sale at principal newsstands in the United States and Canada. Printed in U. S. A.
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Publication Office, 404 N. Wesley Ave., Mt. Morris, Illinois. Editorial and General Offices, 96-98 Park Place, New York City
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Vol. 2 No. 1

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Fall 1930

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These nationally-known educators pass upon the scientific principles of all stories.

. . Prophetic Fiction is the Mother of Scientific Fact . .

Science Fiction vs. Science Faction

By HUGO GERNSBACK

IN time to come, there is no question that science fiction will be looked upon with considerable respect by every thinking person. The reason is that science fiction has already contributed quite a good deal to progress and civilization and will do so increasingly as time goes on.

It all started with Jules Verne and his *Nautilus*, which was the forerunner of all modern submarines. The brilliant imagination of Jules Verne no doubt did a tremendous bit to stimulate inventors and constructors of submarines. But then, of course, Jules Verne was an exception in that he knew how to use fact and combine it with fiction.

In time to come, also, our authors will make a marked distinction between science fiction and science *faction*, if I may coin such a term.

The distinction should be fairly obvious. In science fiction the author may fairly let his imagination run wild and, as long as he does not turn the story into an obvious fairy tale, he will still remain within the bounds of pure science fiction. Science fiction may be prophetic fiction, in that the things imagined by the author may come true some time; even if this "some time" may mean a hundred thousand years hence. Then, of course, there are a number of degrees to the fantastic in science fiction itself. It may run the entire gamut between the probable, possible and near-impossible predictions.

In sharp counter-distinction to science fiction, we also have science *faction*. By this term I mean science fiction in which there are so many scientific facts that the story, as far as the scientific part is concerned, is no longer fiction but becomes more or less a recounting of fact.

For instance, if one spoke of rocket-propelled fliers a few years ago, such machines obviously would have come under the heading of science fiction. Today such fliers properly come under the term science *faction*; because the rocket is a fact today. And, while rocket-propelled flying machines are as yet in a stage similar to the Wright brothers' first airplane, yet the few experimenters who have worked with rocket-propelled machines have had sufficient encouragement to enable us to predict quite safely that during the next twenty-five years, rocket flying will become the order of the day.

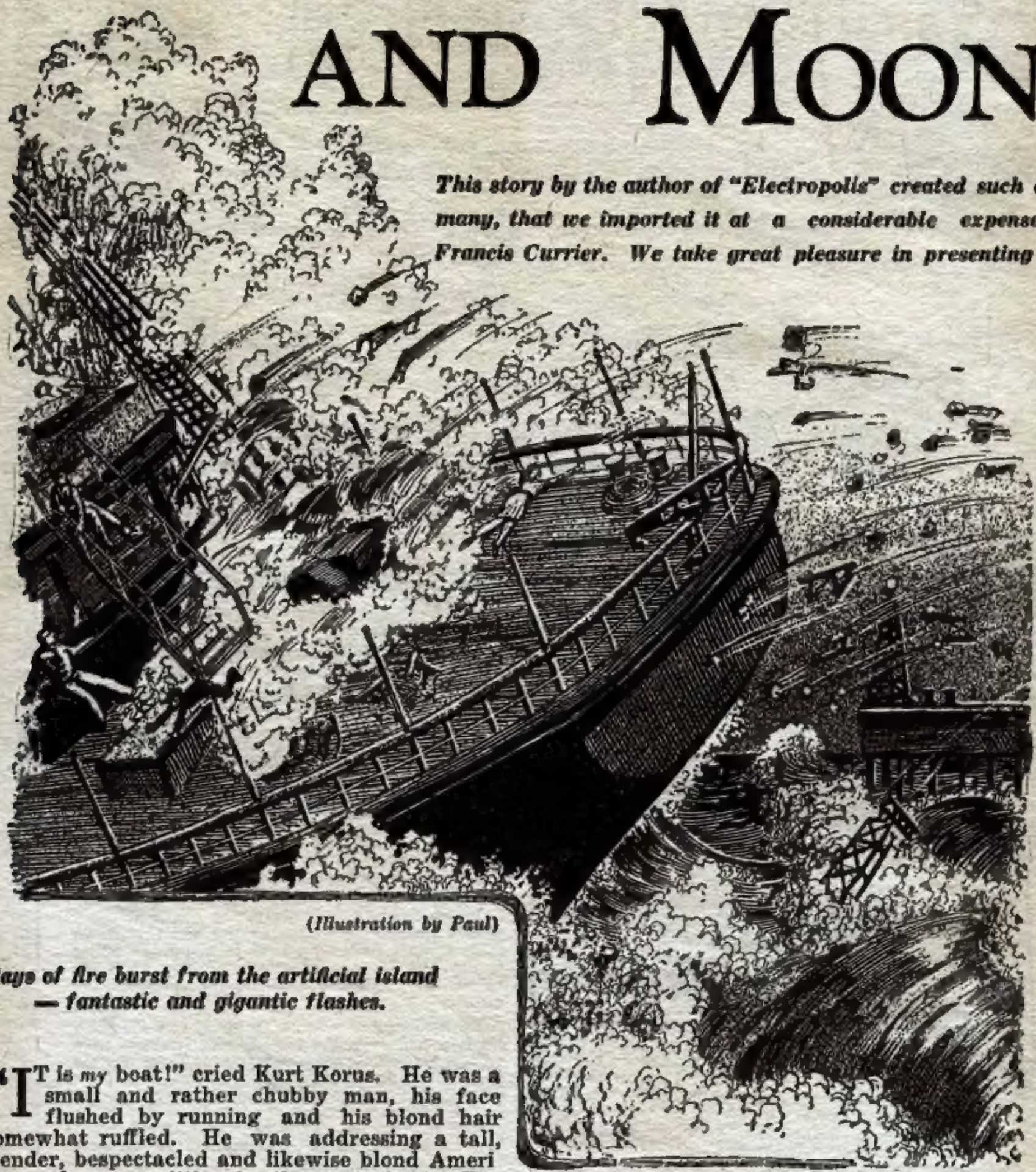
Which is the better story, the one that deals with pure science fiction or the one that deals with science *faction*? That is a difficult thing to say. It depends, of course, entirely upon the story, its treatment and the ingenuity of the author.

Of course, the man of science, the research worker, and even the hard-headed business man will perhaps look with more favor upon science *faction* because here he will get valuable information that may be of immediate use; whereas the information contained in the usual run of science fiction may perhaps be too far in advance of the times and may often be thought to be too fantastic to be of immediate use to humanity. So between science fiction and science *faction* there will always be a great gap—and each will have its thousands and perhaps millions of adherents.

The Next Issue of WONDER STORIES QUARTERLY Will Be on Sale December 15, 1930

BETWEEN EARTH AND MOON

This story by the author of "Electropolis" created such a many, that we imported it at a considerable expense, Francis Currier. We take great pleasure in presenting



(*Illustration by Paul*)

Rays of fire burst from the artificial island — fantastic and gigantic flashes.

"IT is *my* boat!" cried Kurt Korus. He was a small and rather chubby man, his face flushed by running and his blond hair somewhat ruffled. He was addressing a tall, slender, bespectacled and likewise blond American, who was sitting in the motorboat. The Chinese sailor was already busy with the controls.

"Beg your pardon, the boat belongs to me."

"Yesterday evening I rented it from Mr. Jumble."

"Tonight I bought it from Mr. Jumble."

"Start!"

The motor started, and the American pulled off his coat and rolled up his shirtsleeves.

"Well, in three seconds we shall pass that steamer. At that moment I shall knock you into the water, so that you can reach the ship. I am not a murderer."

Korus smiled pleasantly.

By Otfrid Von Hanstein

terrific sensation in Ger- and had it translated by it to our readers.

"I should advise you not to do that. I should have to duck you under water until you had lost your breath. Besides, I have swum the Channel three times."

After a pause, during which the two sat silently opposite each other, while the speed boat sped through the harbor like an arrow, Korus said: "From the New York *Herald*?"

"New York Evening *Ledger*. Are you from Hamburg?" answered the American.

"Berlin *Press*," said Korus.

After a pause, Korus continued, "What is New Atlantis?"

"Madness."

"Who is Joe Allister?"

"A man who has a million too much."

"Who is Egon Helmstätter?"

"A man who would be put in jail in England."

"Why?"

"Who is Waldemar Apel?"

"Exactly the same as we."

"What does that mean?"

"A dreamer, an idealist, a real man, one who after all earns money, for he is getting the million which Allister loses." Both laughed. Then the German bowed and introduced himself: "Kurt Korus."

"All Right."

"Boor!"

"Are you, or is that your name?"

"No, you are! I tell you my name, and you say 'all right'."

"Are you a boor, because your name is Korus? My name is Albert Right, abbreviated to All Right. Just think of Al Smith."

Again a pause, and then the American slowly extended his hand.

"Allies?"

"To be sure. You are America, I am Europe. Allied warfare against New Atlantis."

"Very well."

They had left the bay, and with the speed of an express train the motorboat was racing out on the ocean, as brilliant as a mirror this evening, with its waves foaming up high and breaking in white spray over the two reporters, while the Chinese sailor stood motionless at the wheel in his oilskins.

The Cliff House above San Francisco. An immeasurably splendid evening, with the flower gardens about the rather haughty structure all in bloom. Dance music in the open air, young ladies in the most modern dancing frocks, all the gilded youth of San Francisco, and the best negro orchestra in California. Far below, on the sea-washed rocks, the traditional seals with wondering eyes. At the back of the house was a quiet hall. Its doors and windows were carefully secured, to keep out the merry sounds of the dance music. There was an assemblage of serious men: scientists, astronomers, technicians from all over the world. In the front row was a short, thin, wrinkled man of some seventy years, Joe Allister, the petroleum king, who was giving the million.

Beside him sat his only remaining child, his twenty-two year-old daughter Irene Allister, youthful, slender, black-haired, with a dainty face and intelligent eyes.

On the platform, beside the great blackboard on which a strange airship was drawn, stood Waldemar Apel. He was a typically energetic German in the prime of life. His speech was short, firm, definite, and convincing. He concluded his discourse thus:

"Now I merely have to show you briefly the form of the space rocket, depicted here, which is to make its first ascent tomorrow at noon. In general it follows the ideas and plans of the German scientist, Herman Oberth. To limit the weight to the very minimum and at the same time to obtain the greatest possible rigidity and ability to resist the immense initial pressure to which the ship will be exposed on starting, the entire hull of the ship has been made, so far as metal is concerned, of beryllium. This has been produced for the first time in considerable amounts by the German professors Stock and Goldschmidt. It is extraordinarily lighter and at the same time much harder than aluminum.

"To be sure, it is a very costly substance, for you know that the green emerald, the bluish green aquamarine, and finally the ruby and sapphire as well, are nothing but crystallized forms of beryllium. The rocket, which has approximately the shape of an artillery shell, had to have extraordinary dimensions, to be capable of enough of a load. Though only one man takes the risk of being the first to undertake the gigantic flight, the rocket is really built to take three or four passengers. Its length is no less than thirty-five meters*, its breadth six meters.**

MOST writers of moon stories have seen as the most interesting part of an interplanetary adventure, the conflict of our race with a new and strange civilization. They assume that the Moon, Venus, Mars or some other planet is inhabited and proceed to construct excellent stories about the probable adventures our earthlings would have.

The present story however is a complete exception. Von Hanstein does not at all deviate from what we actually know about the moon—that it is by turns intensely cold and intensely hot—that it has two weeks of night and two weeks of day; that it is lifeless, airless and indeed a most desolate dead world. What would happen then, he asks, if some space voyagers found themselves stranded on this dead world. How could they live; and if they did live what would be the effect on their health and their nerves of the terrible desolation, the unending monotony of the lunar world? Would they go mad and try to kill each other? Would they revert to savagery?

These are questions that must be answered if space travel is to really come, and our author does assure them. We must face the facts, the difficulties, as our good author gives them to us gloomy as they are. But there is a brighter side to his picture too. There is humor as well as tragedy, bravery and the thrill of dashes across hundreds of thousands of miles of empty space in this most exciting and real of interplanetary stories.

A Hazardous Undertaking

"AT the very bow are empty spaces, which are to allow the ship to remain afloat in water. Behind is the cabin of the operator and the passengers. From here all the steering de-

* About 110 feet.

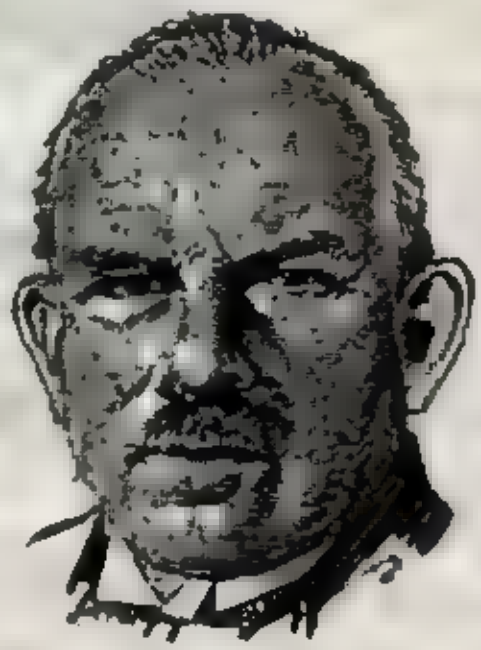
** About 20 feet.

vices and all the necessary apparatus are managed by levers.

"Here in wall cabinets are also the food supplies, the 'diving suits', the cylinders of oxygen, and lastly a small supply of oxygen and hydrogen kept in metal bottles. The extreme rear end of the rocket is only loosely attached. Here are again reproduced on a smaller scale, in the form of an auxiliary rocket, all the exhausts which are to propel the ship. This auxiliary rocket is to give the ship its initial velocity and then, after its fuel supply is exhausted, it is to be released from the main ship by the pressure of a lever which sets in motion some sharp knives, thus casting it off. Only then, that is to say when high up in space, begins the rocket explosions which are caused by the flowing out of our gas mixture to give the rocket its steady flight.

"You see the entire rear part of the ship filled with the pumps and all the apparatus pertaining to the operation of the rocket. You see the gyroscopic steering devices around the ship, and of course I do not need to tell you that the entire ship is assured against any loss of heat by means of newly invented insulation layers.

"Gentlemen, there is no doubt that this rocket would be able to reach distant bodies in space, the moon, our neighboring planets. At present that is not our purpose. Tomorrow we will make a trial flight which is particularly to demonstrate the ability to direct the course of the rocket. The courageous man who will dare this first flight will ascend only a little beyond the atmosphere and will then describe a semicircle over the earth at a velocity of about two thousand kilometers an hour, landing again in the Indian Ocean, not far from Madagascar, probably sooner than our boldest fancies imagine.



OTFRID VON HANSTEIN

"I have the honor to invite you, for this first trial flight, to the little island New Atlantis, recently structed by us in the ocean from iron and concrete, to which our steamer will transport you tomorrow morning at eight o'clock. Finally, I have the additional honor of naming our bold pilot and of presenting him to you.

"Dr. Egon Helmstätter, may I ask you to step forward?"

A young man, about twenty-five years old, a slender wiry person with an energetic face and determined eyes, stepped upon the platform in some embarrassment and bowed to the assemblage.

At this moment, while there was a loud burst of applause, Irene Allister uttered a short cry.

He was in the back garden of Cliff House. Not where the dancing couples were crowding under the electric lights to the tunes of the negro orchestra, but where the cliff was bordered by only a narrow iron rail, offering a splendid view of the foaming sea and the brilliant harbor of San Francisco. It was lonely here. Those who were not dancing were crowding around Waldemar Apel, the ingenious inventor of the rocket, around Joe Allister, who had freely spent a million dollars, around the blackboard with the picture of the strange ship. To be sure, the actual leading character, Dr. Egon Helmstätter, was no longer in the hall. It was he who was standing alone out there on the cliff, looking out into the distance. He felt strange but not worried. He did not regret his decision, but he was aware of its full extent. Here he stood on the cliff and gazed across to San Francisco. He was young, he was healthy and strong. Before him could lie a long and happy life.

Tomorrow perhaps he would be the most famous man on earth.

Tomorrow perhaps millions would lie at his feet.

Not a good outlook. One to a hundred. Probably tomorrow about noon his young limbs would be torn to atoms, flying across the ocean like a new Icarus—he who burned his wings on the sun.

He started, feeling that someone was standing behind him.

It was Irene Allister.

"Why have you done it?"

He looked at her, a thoughtful expression in his eyes.

"Did you not tell me yourself, Miss Allister, that you would only love a man who did something extraordinary?"

She seized his hand.

"Then it is for me? Then I am to blame, if tomorrow you—?"

Anxiety, fear, and deep feeling were in her words, yet Egon took it in a most remarkable fashion. Certainly, a few days before, when he was alone with Irene in her father's park, he had spoken of his love, and she had said with a smile the words which he now repeated.

But now all that seemed to him so strange and trifling. That night, he had resolved that at the very first moment, he would place himself at Apel's disposal.

Was it to win Irene Allister?

In these two days he had become quite another person. He had thought nothing more of Irene. He was completely sunk and absorbed in the immensity of his new work. He felt himself a pioneer in human knowledge and achievement.

Now the weeping girl stood before him. Could he, standing at the threshold of eternity, think of a girl? To be sure, she was dear to him, and he was infinitely sorry for her.

"No, Miss Allister, you are not to blame. It is my own free will to offer my life to science and perhaps to the future of mankind."

She looked at him, and slowly he looked away again into the distance. She had flirted with him as with many others. At this moment,

when she felt that the soul of this man was barely held to earth, he seemed to her supernaturally grand and splendid, and she knew that she loved him.

"Remain here!"

He turned again to her. He softened. He laid his hand on her head, saying, "Be happy and hope that your father's work will succeed."

At this moment his eye was fixed on something else. He saw a swift little motorboat speeding across the bay below. He felt as though he could suddenly see clearly.

"Excuse me, please, Miss Allister."

He freed his hand from hers and walked quickly into the house.

She looked after him, realizing that he had completely forgotten her. For the first time since she was a child, Irene Allister bowed her head on a post of the fence and wept.

A Sudden Decision

JOE Allister was standing alone in the little special room behind the great hall. The hubbub of the people who crowded about him had become too much for him, and the old man felt exhausted.

Egon Helmstätter walked up to him. "May I trouble you for a moment?"

At once the petroleum king took in the terrified expression of the young man.

"What is it ?"

"I do not know, Mr. Allister, but for several minutes I have felt an inexplicable anxiety."

Allister smiled understandingly.

"It is of course for you to say whether you wish to ascend tomorrow."

Egon shook his head.

"O nonsense! Wasn't it your intention to set out for New Atlantis at the same time—as the steamer?"

"Certainly."

"Would it not be possible for us to start at once, so that you might take me to the artificial island as fast as possible?"

"But why?"

"I cannot tell you. I myself do not know. Suddenly the idea seized me that danger threatens the rocket this very night, that we cannot get there soon enough."

"You are nervously excited."

"Perhaps, but—"

"Well, has something happened to you?"

"I was standing by the cliff, when all of a sudden I saw a swift motorboat hurrying across the water, toward the mouth of the bay."

"And what else?"

"Nothing else. I only imagine that there might be people in the boat who would injure us. Who would go out on the ocean at night in a motorboat?"

"Perhaps a couple of over-eager reporters. They cannot land, New Atlantis is well watched."

The old man walked back and forth nervously. "Your anxiety is infecting me. Of course it is nonsense, but after all—" He laughed. "Do you know, that really is a good idea. Now is the time for the festive dinner. Speeches to me, to you, to everybody. The usual mutual incense-burning without any sense. Look for my daughter, and we will set out secretly. Order my car. This is a fine joke. While the hyenas of enthusiasm are waiting for us in the hall, we will quietly make our getaway, eat comfortably on my yacht, and sleep a few extra hours, before the big show begins."

When the committee of honor entered ten minutes later, to accompany Mr. Allister and Egon Helmstätter solemnly into the banquet hall, they were disappointed to find nothing but a note:

"We have already started for New Atlantis."

They actually were already on board the *Swallow*, the white yacht of the petroleum king, passing through the bay.

It was two hours later. Already they were far out in the ocean, for the motorboat was making extraordinary speed thru the quiet sea. Kurt and the American for a long time had ceased to sit in hostile fashion on opposite sides of the boat. They were sitting together below in the tiny cabin, where the spray did not enter. Korus had lighted a cigar, and the American had filled his pipe.

"We should be there in about an hour."

"Then we have at least four hours start on Allister's yacht."

"Of course the island is guarded."

The American bent close to the German.

"I absolutely have to get into the rocket tonight. If I can telegraph the New York *Evening Ledger* an exact description of the ship early tomorrow, I shall earn four thousand dollars."

"We Germans are poorer, I'll get only three thousand marks."

"Well, we must get in, but how?"

Korus held out his hand.

"Tit for tat?"

"How so?"

"If you are ready to render services in return, I'll take you along."

"Have you confederates?"

"Three makes an alliance."

"Who is the third?"

"Nagao Hazumi."

"The Japanese?"

"Yes from the *Asahi*, you know the Tokyo *Sun*, they pay more than New York. Five thousand dollars."

"Is he there already?"

"He has been for three days. Among the guards disguised as a Chinese."

"I'll be damned! For three days?"

"No matter, he doesn't understand technical matters. He has to wait for me to come and explain it all to him. I shall do that, so that he will take me into the rocket."

The American pressed his hand.

"Then we three, America, Germany, and Japan, will send our reports at the same time."

New Atlantis!

THE white yacht of the petroleum king was speeding across the ocean under a full head of steam. To be sure, it couldn't catch the little motorboat with the speedy engines. Joe Allister felt very content.

"Pitch in, Doctor. You will not be offered such good food tomorrow."

Egon smiled a little.

"I hope that the lunch in Madagascar is not too bad."

"Well, you will be only a few minutes en route."

Egon was very serious.

"Perhaps a whole eternity."

Allister shook his head.

"Don't forget that you have my million in your hand."

Irene could no longer bear to listen to this conversation. Silently she left the room.

Still the motorboat raced through the waves. It was almost midnight, pitch dark, the moon and stars veiled by black clouds, but in the sky there suddenly appeared a bright light, growing stronger every minute. Korus and the American were now standing on the deck of the boat.

"New Atlantis."

It was the little island in the vast ocean, as yet unseen by anyone, carefully guarded from every outside eye by Joe Allister's stately fleet.

It was a remarkable island, circular, about half a kilometer in diameter. It rose from the sea, floating on it and fastened to the bottom only by strong anchors. It actually was a huge hemisphere of metal and concrete, open underneath. Above it was shaped to a single perfectly level platform, which rose so high above the water that it was not splashed by the waves. From this platform steps led down to the water all around. On all four sides, ribs several hundred meters long extended out into the sea, forming four harbors, which could be used according to the direction of the wind.

At the outermost point of each of these breakwaters was a little lighthouse, and before each of these lighthouses one of Joe Allister's ships lay at anchor, with steam up.

The little motorboat had put out all its lights and the motor was throttled to a very low speed.

Korus looked at his watch.

"Ten minutes of twelve. We must wait these ten minutes. I told Nagao Hazumi that I would come at midnight. We cannot venture the entrance without him to guide us."

"Full speed astern."

The American had pulled the lever himself. The nearest ship was sending out a searchlight and sweeping the ocean.

"The devil, we came near being in the beam of light."

They remained motionless, rocked by the waves, while the American laughed.

"I feel as though I were aboard a rum runner."

They looked at the watch.

"Midnight—five past—ten past twelve."

They listened. Everything remained unchanged.

Yonder was the brilliantly lighted island, in the middle of which a great structure of iron beams rose indistinctly; yonder were the four ships, each in turn sweeping the sea with its searchlights.

"The Japanese is not making any sign."

"Who knows what may have happened to him?"

"Every minute is precious, we must chance it."

"Absolutely impossible."

"Why?"

"We can in no way land without being noticed."

"Certainly there are guards on the shore too."

"Are we to turn back?"

"We'll swim over."

Without replying, Korus jumped down into the cabin, came up with the remains of the ham which they had been eating, and threw it into the water. At once great fish heads shot up from the depths.

"There are also sharks."

The two men, who were watching with vexation the sharks fighting over the booty, could not help shuddering at the sight. Then they were addressed in broken English.

"Good evening, sirs!"

They looked around. It was not, as they had first thought, the Chinese sailor but instead a small Japanese in European clothing.

"Nagao Hazumi, are you here?"

"Yes. You went right by my boat. How could you be so careless? If the ships see you we are done."

"Well then?"

"I am here in a rowboat. It was not easy to reach your boat."

"Can we land?"

"Why else should I be here?"

"Have you been in the rocket yet?"

"Things will be ready in an hour."

"What does 'ready' mean?"

"When the guards are asleep."

"Brandy?"

The Japanese first cast a questioning glance at the American, was reassured by the German, and then whispered in their ears, "Opium."

"Fine."

The Japanese took charge. All three got into the little rowboat in which Nagao Hazumi had come and which he had tied to the larger boat.

The Chinese was ordered to return to San Francisco but in any case to make a wide detour, in case Allister's yacht or the steamer with the guests of honor should encounter him. Nagao Hazumi rowed on, then waiting until the beam of the searchlight of the nearest ship had again disappeared, he whisked past the steamer with almost noiseless strokes, and slipped into the shadow of the breakwater. Covered by this, they approached the strange island of New Atlantis.

CHAPTER II.

The Mysterious Projectile

As silently as he had rowed along the breakwater, the Japanese made the boat fast at the grated edge of the lowest step of this remarkable island. He got out first and looked around. Already during the trip Korus had made him acquainted with the American, though the Japanese had certainly given him no friendly looks.

"It was against the agreement."

Korus shrugged his shoulders.

"Was I to get myself knocked into the water?" said he, turning to Al Right. "In fact, that talk about swimming the Channel was all bluff."

The latter smiled and said, "So was knocking you into the water."

Peace was established, and now the pair waited until Nagao Hazumi beckoned to them.

"The miserable swine are already fast asleep. There is no danger."

To be sure, one pigtailed gentleman staggered past them, as all three stood on the top step, but his eyes were already half glazed, and the longing for opium had complete possession of him.

"First a look into the barracks."

"The devil! The yellow race isn't so bad. On the contrary, I am afraid they will give us all a nut to crack, but when opium has them in its claws—"

They now approached the central elevation. What they now saw was a phantastically uncanny structure. Four towers, something like those of a radio station. Four slim towers of ironwork, with the immense projectile in their centre. Only now did they see how immense it was.

"Of course!" nodded Korus. "A regular four story dwelling house is at most seventeen meters high. This projectile, as Apel explained, is thirty-five meters long and six wide. It is upright, with the tip toward the sky. See, the rocket is very loosely held by four elastic rings running from the four towers. At its four sides are wheels which will also slip along elastic tracks, when the thing goes up. Below the wheels, which are probably cast off during the flight, are the gyroscopic controls of which Apel spoke. And below, that is at the rear end of the rocket, are the exhausts. That is to say, it is really the auxiliary rocket, which is fitted over the actual stern like an overshoe. There are the knives with which one can cut off this auxiliary rocket."

"Would you like to go with the thing, Nagao?" he turned to the Jap.

"Buddha forbid."

"All right!"

The American was fond of making a pun of his name. They now saw a sort of stairway in one of the towers.

"Probably that leads to the cabin."

"Just say to the coffin, for whoever is the first to shut himself up in this cabin and begin the flight is ready for burial."

"But Apel—"

"Is right in theory, but in practise it is nothing but a mad dream. I am sorry for the man who is sacrificing himself."

"He firmly believes in it."

"I certainly don't. How about it, colleague Korus, we don't go along with him, do we?"

"We two certainly do not, Sir All Right. But we must now take a good look around and earn our pay."

They had climbed up about twenty-five meters and were now standing on a little platform which was full of holes. From here they could get a perfect view of the whole little concrete island, which had nothing on it besides the rocket structure but two barracks. They also had a view far out over the sea.

"Hello, do you see out there?"

"Good Heavens, lights out on the sea."

All Right took out his spyglass.

"Damn it, that is no chance steamer. That is Allister's yacht."

"Then let us be quick."

They went to the door of the rocket, which was not locked. It could not be, because there was no possibility of having anything like a keyhole in the outer wall. The lock was inside only, and now there was even a metal strip wedged in between, to keep it open.

"The whole ship is pure beryllium."

They entered, and Korus took out his flashlight.

"We had better not light up. Who knows how far it might be visible. We would get the guard ship after us."

The cabin was small, about five meters wide and two meters deep. It took in almost the entire width of the rocket, right behind the bow. At the back was a bench, very softly padded and mounted on strong springs, capable of holding three or four people comfortably. The entire forward wall was covered with levers, with all sorts of mysterious switches bearing inscriptions. Otherwise this wall was also padded, and each of the levers was in a depression, over which a little cushion was now bent back and secured by a leather loop.

Playing With Fire

IT was clear that all these cushions were to cover the depressions before the start, when all four walls of the cabin would be completely covered with padding. Likewise the ceiling.

"Damn it, the pilot must get a good shaking up in the cabin, if such padding is needed."

Again the American shook his head.

"I am not going along!"

The Japanese had opened a cupboard by turning a knob over at the side.

"Well, the food supplies are not so bad, just look here!"

"It is a pity that no one will have a chance to enjoy them."

The three journalists now were sitting on the padded bench. The American had placed his flashlight on one of the shelves drawn out of the wall, and all were busy in writing notes with hasty fingers. Korus even attempted to take a flashlight picture with his pocket kodak. Occasionally they looked out carefully. The steamer, which they took to be Joe Allister's yacht, was rapidly coming nearer, being already close to the guard ships.

All Right closed his notebook, saying, "I will bet ten thousand dollars that whoever carries out the crazy idea of exposing himself in this thin-walled ship to the pressure of the rocket force will be smashed to bits right in the first moment. Do you hear, squashed flat, torn to atoms, annihilated! I will bet ten thousand dollars, do you understand?"

No one seemed to want to take the bet. The Japanese eyed the food in the cupboards.

"It really is a pity. I am sure that not one of the three of us has had a bite to eat tonight. The good food will needlessly perish—"

He looked cunningly at the other two, but Korus shook his head.

"A real journalist would set the world on his head, like Atlas, to discover what he could learn, but he would not steal."

"All right," said the American, with a nod, looking threateningly at the Japanese.

The latter was already again among the levers.

"If we only knew—if we at least could see some of the apparatus in action—"

"Look out!"

Korus pushed back his hand.

"But the levers here are simply for steering. I never saw the working of such a gyroscope."

Before the other two could prevent it, Nagao Hazumi had turned one of the levers. For a moment everything was quiet, but then there came from behind or rather from below, from the rear of the rocket, a humming sound, as though a clockwork were set in motion.

"Turn the lever back!"

"Let us wait—"

The humming became stronger, the structure of the rocket was already beginning to tremble a little.

"For Heaven's sake, push back the lever!"

At this moment the American knocked the flashlight off the shelf, the little bulb smashed on striking the metal floor, and it became dark, while the humming and the vibration increased.

"A match!"

They searched their pockets.

"I haven't any!"

"Here!"

The match flared up.

"Now I don't know which lever I turned."

His hand felt from handle to handle. Other sounds became audible. Outside at the breakwater a whistle sounded. Evidently the yacht had reached the island.

"Let's get away."

"Those must be levers that don't matter. The doctor will arrive any minute and shut everything off."

"Where are my notes?"

The three intruders were groping about in the dark, for the Japanese had dropped the match. Because the rocket stood upright, the bench was with the back downward, and they fell over it. Because the shelf, which swung in all directions, was hard to push back into the wall in the darkness, time was lost. At the same time the sounds became louder every second. There was a very gentle explosion, at which the Japanese tore open the door and leaped out. In so doing he collided with someone outside.

Allister's Feelings

AT the Lick Observatory, the great California observatory on the southern peak of Mt. Hamilton, thirteen miles east of San Jose, built by the generosity of Lick, the manufacturer of organs and pianos, in the year 1888, was still located the second largest refractor in the world. It was surpassed only by that of the Chicago Observatory. In the night about which we have been speaking there was great activity there.

Director Campbell himself was in the observation room.

"When is the space rocket to ascend?"

"Tomorrow forenoon."

"Have you found the mysterious island of New Atlantis?"

"Not yet. Its place is kept secret and will be disclosed only tomorrow."

"Ridiculous secrecy. Here, I will look for it myself."

He turned the dome, seated himself in the observation chair, and pointed one of the best telescopes out to sea.

He sat there for nearly an hour. Then he shook his head.

"The air is not clear, there is nothing to be found."

At this moment he looked again into the eyepiece, to turn it back again, when he cried softly—began to tremble, and fell off the chair.

"What has happened?"

"I don't know—I think it was the space rocket!"

He was so startled that he could not talk. He jumped up, ran to the great refractor, and gazed silently and tensely into the blackness of the cloudy night.

It was only toward morning that the director, weary and vexed, left his seat without saying a word to his assistant and went back to his dwelling.

The white yacht had traversed half the distance between San Francisco and the artificial island. Egon Helmstätter was in the cabin. He was very serious. Some inner voice was telling him that he would make the ascent either immediately or never. He was thinking about the rocket. What if something were happening? What if something were happening now, to prevent the flight? He shook his head. He did not wish that, he wanted to make the flight?

He knelt down and opened his suitcase. He began to pack a knapsack. He had brought with all sorts of things which Waldemar Apel had not given him until to-day. He had intended to have them carried to the rocket the next day, but now he filled the knapsack and buckled it. Then he went up on deck and took his place forward, scanning the sea with his telescopes. There was nothing to be seen of the little motorboat. On the contrary, ahead was a yellowish glow, the lighthouses of New Atlantis.

Irene Allister was in her father's cabin. Joe Allister was sitting in a chair and reading the newspaper, calmly reading the stock market reports unaware of any danger.

"Father!"

"What is it?"

"Does the rocket have to start tomorrow?"

"Of course."

"Can't you postpone it a week?"

"Why?"

"Because I should like to go along, too."

"You are foolish—or are you in love with the doctor?"

"I should like to go along. I should not care to have him get all the glory. I am your daughter."

"Just because you are my only child, you may not risk your life. If the first flight is successful—"

She pouted and said, "Then the chance for a record is over—father—I should like to go, too!"

Allister slowly rose and stepped over to her,

"It enough for me to sacrifice the million, not you too."

She gave a little cry.

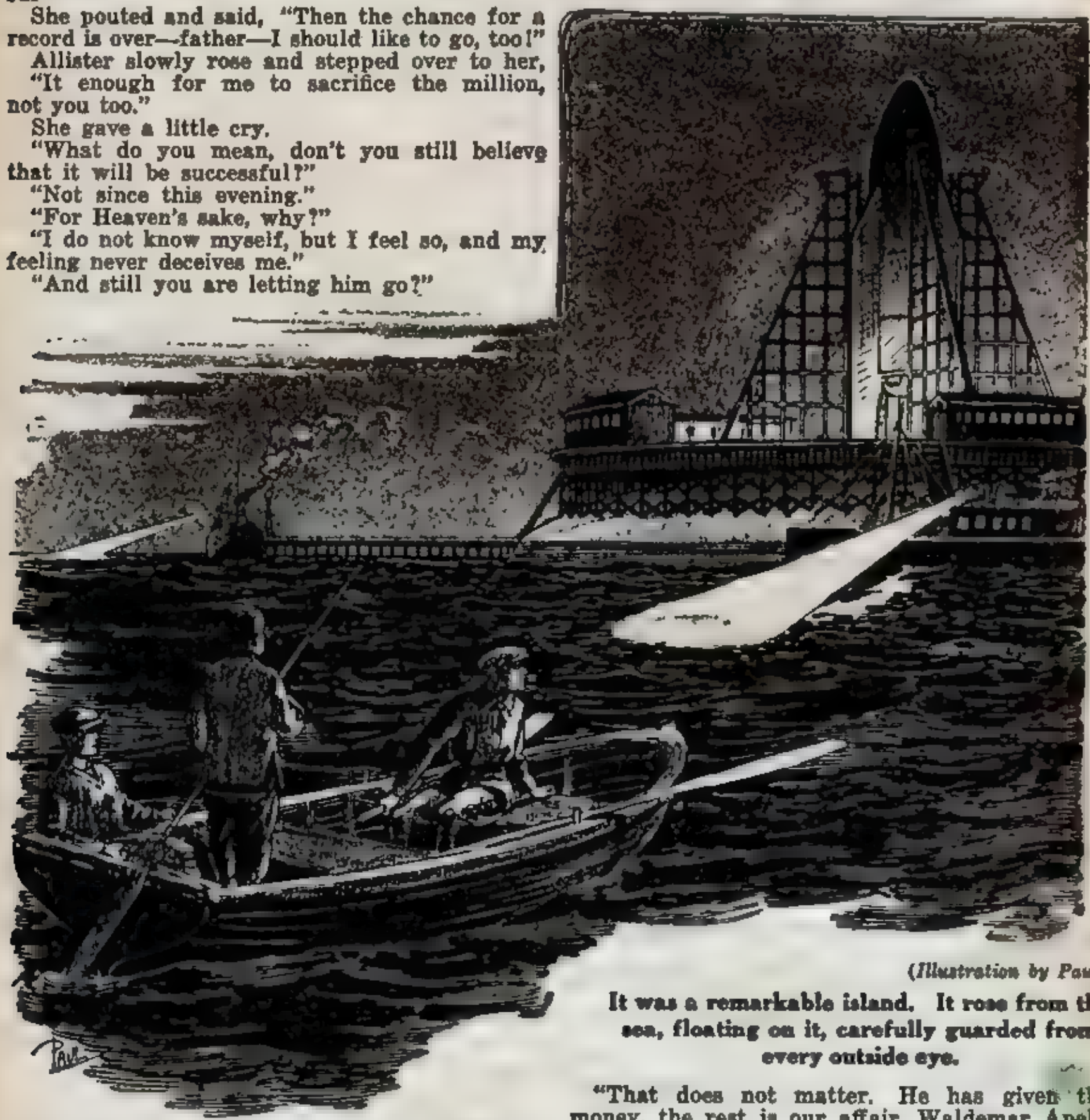
"What do you mean, don't you still believe that it will be successful?"

"Not since this evening."

"For Heaven's sake, why?"

"I do not know myself, but I feel so, and my feeling never deceives me."

"And still you are letting him go?"



(*Illustration by Paul*)

It was a remarkable island. It rose from the sea, floating on it, carefully guarded from every outside eye.

"If he does not start, if I admit that it is impossible, then I am the one who ridiculous. If it does not succeed, the German bears the blame."

"What a terrible thing to say!"

Anxious Moments

ALLISTER shrugged his shoulders and buried himself again in his newspaper. Irene went out and climbed up on deck. Egon was still standing forward, looking out into the night.

"Doctor!"

He turned and gazed at her. In this hour he had not been thinking of Irene.

"Have you faith in your work?"

"Firm faith, if scoundrels are not now taking a hand."

"Father no longer believes in it."

"That does not matter. He has given the money, the rest is our affair, Waldemar Apel's and mine."

He could not understand why she suddenly fled away. He did not know that she was crying. Again he gazed over at the lights which were growing brighter and brighter.

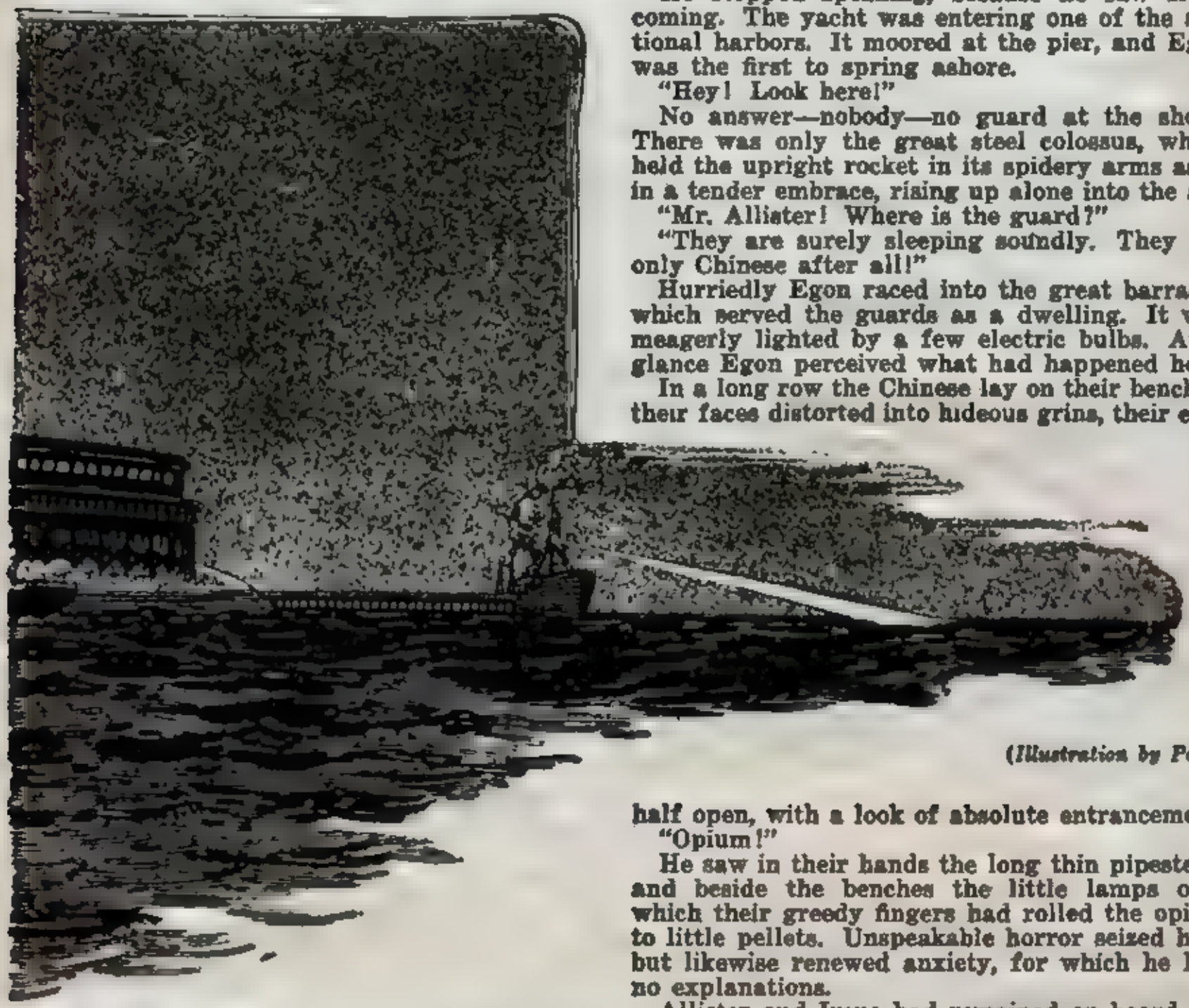
Swiftly the *Swallow* approached New Atlantis. As soon as the bright lights of the yacht rose above the horizon, the searchlight of the fore-

most guardship by the breakwater began to play. Signals were exchanged, and a boat set out from the steamer. The captain had recognized the *Swallow* and came to report to Joe Allister.

"Good morning, captain, is all well?"

"Everything in order, sir, no ships sighted and nothing occurring on the island."

Egon took a hand in the conversation.



(*Illustration by Paul*)

"Didn't a small motorboat try to get into the harbor?"

The captain laughed, saying, "It tried all right. But when it came into the range of our searchlight, it turned and fled back to San Francisco."

Joe Allister nodded. "You see," he said, "I know my captains. What are the Chinese doing on the island?"

"Probably nothing at all."

Egon looked questioningly at him.

"Chinese are keeping guard?"

"Intentionally. They know nothing of science and can reveal nothing."

Allister was completely at ease and looked sideways at Egon. But the latter was far from reassured. On the contrary, he had an almost still more worried look on his face. With his telescope he scanned the island.

"Doctor, doctor, I believe you are nervous."

"Indeed I am. I beg of you, let us land."

Joe Allister shrugged his shoulders and smiled to himself. He had his own ideas about all this.

"I understand, I should be nervous myself, surely, if I—"

He stopped speaking, because he saw Irene coming. The yacht was entering one of the sectional harbors. It moored at the pier, and Egon was the first to spring ashore.

"Hey! Look here!"

No answer—nobody—no guard at the shore. There was only the great steel colossus, which held the upright rocket in its spidery arms as if in a tender embrace, rising up alone into the air.

"Mr. Allister! Where is the guard?"

"They are surely sleeping soundly. They are only Chinese after all!"

Hurriedly Egon raced into the great barracks which served the guards as a dwelling. It was meagerly lighted by a few electric bulbs. At a glance Egon perceived what had happened here.

In a long row the Chinese lay on their benches, their faces distorted into hideous grins, their eyes half open, with a look of absolute entrancement.

"Opium!"

He saw in their hands the long thin pipestems and beside the benches the little lamps over which their greedy fingers had rolled the opium to little pellets. Unspeakable horror seized him, but likewise renewed anxiety, for which he had no explanations.

Allister and Irene had remained on board the yacht and had called to Egon that they were awaiting his return. Remaining on the luxurious little ship was very much pleasanter than in the second barracks, which were far from comfortably equipped.

Egon ran toward the rocket. All of a sudden his worry increased tremendously. He could not believe his eyes, and yet he saw it plainly: there was light in the rocket. A tiny wavering light, as though someone were moving a flashlight around.

Now he stood on the summit, leaped up the stairs in the tower, and was about to open the door. But at this instant it was flung open from within. Out slid a man, a small man, apparently a Japanese, leaping from the room. He fell on Egon and nearly carried him along with him.

Egon plunged forward into the little cabin.

But he saw nothing, for at this moment the door was hurled shut by a frightful force. At the same time there resounded about him a crashing and roaring. He was hurled by an irresistible force against the padding of the cabin and lost his senses.

The End of New Atlantis

IRENE was standing on the deck of the yacht. Joe Allister was just about to descend to the cabin.

"Father!"

She gave a piercing shriek. Allister was beside her. He saw her terrified face and followed the direction of her finger.

"What is it?"

"There is a light in the rocket!"

Now they both saw Egon rushing across the open place, saw the doors open and something plunge out. But at the same instant both of them were hurled to the deck. A brilliant flame flared up, there was a fearful crash of thunder, and the white yacht was raised up by a gigantic wave which suddenly burst forth from the ocean.

Irene lay on the deck, gripping the iron railing in deadly anxiety, in frightful terror. She felt herself drenched by the monstrous wave as it broke downward, but she did not lose concious-ness. Her staring eyes saw rays of fire burst out from the bottom of the artificial island, fantastic and gigantic flashes, followed by a dreadful concussion. Explosions of elemental forces!

At the same time such a breaking and bursting as though the world were being rent asunder. There came an icy blast of air. She saw iron and fragments of concrete flying about her like a chaotic rain of the Judgment Day. She saw how the rocket vibrated, how the iron structure broke and splintered, how the narrow projectile, shooting out at the rear immense flames, now left the ground with a hissing and roaring.

Now there was only darkness where a few seconds before the lights of New Atlantis had gleamed.

The glare of the great arc lights was gone. Her senses were weakened from the poisonous breath of the gases of the explosion. Her last glance took in once more the form of the rocket. It looked red hot, was surrounded by flames, and—she drifted into unconsciousness.

The little yacht bounded like a rubber ball on the wild waves. The deck, the superstructure being destroyed, looked like a heap of ruins. It was covered with fragments of iron, listed badly, and almost flooded with water. Bleeding men were rushing about, sailors with eyes full of horror, men just escaped from seemingly certain death.

Joe Allister was standing erect, clutching some chance support with his bleeding hands and staring at the place where New Atlantis had vanished. Single great fragments, able to float, were still attached to the mighty anchors. Human beings, Chinese, who had been hurled out, barracks and all, by the air pressure, were struggling in the waves. Some boats from the guard ships were fishing them out.

Irene came to her senses, battered in every limb. Loudly she cried, What has happened?"

"All New Atlantis has been blown up. The rocket started, but everything is destroyed."

For the first time in his life Joe Allister felt his teeth chattering, and in trying to talk he stammered.

"Egon!"

Irene stood up, while one of the steamers now approached and took in tow the yacht, the sinking of which was not perceived by these two terrified persons. Men boarded it and took them to the steamer.

Allister paid no heed at first. Only when he and Irene were safely settled, when the steamer cut the towline and the *Swallow* sank close by them, did he find speech again: "My million!"

Irene could have struck him. In this hour she hated him. She lay weeping on the deck, murmuring, "Egon—I loved him so!"

From the chaos of the wildly raging waters rose a human head. Two arms swimming automatically, swimming without actual volition. It was Nagao Hazumi, the Japanese, who was far out beyond the breakwater, raising himself above the water and gazing about. Near him floated a great flat thing. It was part of the wooden barracks in which the Chinese had slept. He pulled himself up and sat on this unstable raft, wiping the water from his face with his hand and now for the first time actually coming to himself. The fact that he had been standing up on the platform of the stairs had caused his being simply blown away by the first fearful air pressure of the explosion, which hurled him through the air like a ball and then plunged him into the sea far out.

Nagao Hazumi was a sinewy little fellow with a body steeled by all sorts of sports. He felt his limbs to see if they were broken. He felt the feeling of having been flayed, but he was uninjured, merely scratched to bleeding by the impact with the water, perhaps also by fragments which had brushed against him. He looked about and slowly began to comprehend. The rocket, the towers, the barracks with the Chinese—everything was gone. Dark and dead was the remnant of the island, and the sea foamed up high with violence of a spring-tide.

In his eyes was a painful horror. He, he himself, had caused the catastrophe. He had caused it by his frivolous playing with the levers, though he was not certain of the actual reason. He had murdered his colleagues, wrecking the work for which Allister had squandered a million!

About him were shrieks of terror and cries for help. The four guardships, two of them themselves suffering from heavy damage, were sweeping the sea with their searchlights. In their beams he could see Chinese swimming or rather being tossed about on the waves.

He tore a plank from his raft and used it as an oar. Tirelessly, again and again imperilling his own life, he rescued the Chinese, wondered if the wave had driven away the sharks, and

pulled one body after another on to his unsteady raft, until someone hailed him.

"Hello, who is there?"

"Guards of New Atlantis!"

A boat came over, belonging to the guardship.

"Take over the men—Chinese from the barracks."

The sailors, who were surprised to see a Japanese, were still more surprised that he had disappeared again by the time they had brought the Chinese from the raft into the boat. Nagao Hazumi had been thinking things over. If he were found, he would have to talk, and he would have to give himself away. Only now it became clear to him that they would take him to court and pin the responsibility on him. He had spied around and seen a little boat, tossing keel-uppermost on the waves. Once more he sprang into the water, swam to the boat, clung to it, and managed to right it again. He even found the oars fixed in the oarlocks. With swift strokes he propelled the boat further out to sea. Cautiously he stood up and looked around. The waves had become calm again, and in the distance he saw the lights of a steamer which was heading toward the island. Relieved in mind, he rowed toward this.

After all, he was to blame and he was not. How did the other two concern him? He had risked his life for his newspaper. So had they for theirs. Certainly he had not intended to cause the accident.

Nagao Hazumi dropped his oars, left the guidance of the boat to the waves, and rested.

The steamer came nearer. Nagao had formed his plan and became still more content when an hour later, he recognized, with his sharp eyes which penetrated even the night, the approaching steamer.

CHAPTER III.

The Three Alone

EGON awoke from his unconsciousness. He was totally unable to comprehend what had happened to him. He was in an apparently narrow and absolutely dark room.

He was not alone, for about him were vague sounds evidently caused by living beings.

Helmstätter tried to collect his thoughts. It was not easy, for he had a violent headache and nausea. He felt like a person still suffering from the after effects of sea-sickness.

Very slowly his thoughts became lucid, and he reviewed what had happened. He had seen a light in the rocket, he had rushed up the stairs, he had leaped in the cabin—and that was all. He listened. The walls trembled slightly. The rocket was in motion. He felt a surging of limitless joy. The rocket was in motion! Then the start was made. Successfully made!

This start had happened quite suddenly through some chance still inexplicable to him.

In the conviction that for the moment his life was probably in no direct danger, he became calm. He groped his way along the walls. He himself had installed every switch and lever, and he could find them even in the dark.

He pushed a button, and an electric light was turned on.

Egon stood up and looked at two terrified faces, totally unknown to him, which were gazing up at him.

The expression of these faces, these deathly white persons who were crouching before him, dirty, upset, and at the same time embarrassed, had an almost comical effect on Egon's once more confident feeling.

"How did you get here?"

"Excuse me, my name is Korus."

Even now the reporter could not entirely suppress his impertinent nature.

"A German?"

"Correspondent of the *Berlin Press*."

"And the other gentleman?"

"All Right, correspondent of the New York *Evening Ledger*."

"Gentlemen, with what right did you enter this cabin?"

"With none at all, simply with the boldness with which a diligent reporter risks anything for his paper."

"Yes." echoed Right.

The frankness of the two pleased Egon.

"You nearly killed the three of us."

"That was not our intention. We three, that is we two and the Japanese Nagao Hazumi, wanted only to get acquainted with the internal equipment of the rocket. Chance must have caused one of us to turn a lever. At once a clockwork began to hum, we were terrified, and we knew no longer which lever we had turned. The Japanese jumped out and you burst in. Then in that very instant the end of the world came for all of us."

"God Almighty!"

Egon had hardly heard the last few words. He had leaped to the velocity meter and cast a glance at it. Then he opened a narrow door above the padded bench at the back of the cabin, crept through, and disappeared for a moment in the rear rooms, leaving the two reporters alone.

Korus slowly stood up.

"My bones are most remarkably unbroken."

"Mine, too."

"The rocket has started."

"It is too bad that the doctor arrived. If not, we two alone would have—"

"Nonsense, my dear fellow, we should never have arrived on earth again. Besides, Mr. All Right, may I ask you for ten thousand dollars?"

"How so?"

"You bet this amount that the rocket would explode at the start."

The American said with a grin, "I propose that we wash up first. We found the water tank yonder in the cabinet."

They cleaned themselves and also the floor, observing how the water oozed away under the latter.

"It is remarkable how good the air is here."

"Everything is remarkable."

Egon returned with a very serious face.

"Gentlemen, it would be absolutely useless for me to reproach you further for your irresponsible conduct, by which you have cost Joe

Allister a million and ourselves most probably our lives. By the wrong use of the levers you set in action at the same time both the auxiliary rocket and the actual ship. Most extraordinary explosions must have occurred, and I suspect that you have destroyed the island of New Atlantis and unfortunately probably a large number of human lives as well."

"We really did not—"

"I already told you that is pointless to talk about these things. We have, though certainly very much against my wish, become travelling companions, and now there is nothing to be done but to keep a good comradeship. We are now already en route. The pressure, tremendously increased by the premature immense explosions—a pressure sufficient to deprive us of our senses—prevented me from managing the steering controls at the right time. It is impossible for us to carry out our intention of landing in Madagascar."

The American slowly turned around.

"Excuse me!"

Egon continued, We have already left the terrestrial atmosphere some time ago and are flying through empty space."

"Good Heavens!"

An Inevitable Doom

KORUS had jumped up from the bench. He did not manage to stand on the floor but flew headfirst against the padded ceiling of the cabin, rebounded from this like a rubber ball, struck his feet on the floor, flew up again from this, and doubtlessa he would for some time have continued this sport, which was very amusing for the two onlookers, if Egon had not drawn him down on the bench again with a very gentle movement.

"What was that?" asked Korus.

"Well, gentlemen, you must already start to accustom yourselves a bit to our changed mode of life. Since we are floating in space, the laws of good mother Earth no longer hold for us. Gravity is entirely changed. We have become independent, and for us the force of attraction of the earth no longer counts. We have only a much slighter one, which the centre of gravity of our own rocket (purposely placed under the floor of this cabin) exerts upon us. You see, we need not necessarily float about helplessly in our cabin, but we must avoid all violent motions. Look!"

From his trousers-pocket he took a heavy bunch of keys and let it fall from his hand. It did not fall quickly to the floor but floated down very slowly, somewhat like a thin leaf of a tree.

All Right, who was just as much excited as Korus but did not seem at all despairing, said, "Then are we on the way to the moon?"

Egon's face was set,

"We have no more fuel. By your foolishness our entire supply of hydrogen and oxygen has been prematurely destroyed, except for a few oxygen cylinders which we need for our diving helmets. I have no reason to conceal anything from you. We have absolutely no more chance to return to the earth."

"I thought you could steer the rocket at will?"

"So I can. Now I can at once turn around, so that we shall reach the earth again in a very short time."

All Right nodded his head and said, "Well, do it!"

"But I no longer have the possibility of braking the descent by exploding the gas in the opposite direction to the line of flight. Once we have again reached the field of terrestrial gravity, we shall of course plunge downward with a velocity increasing every second. On striking the earth we shall obviously be smashed to atoms."

"The devil!"

"I have therefore decided to go to the moon."

"And then return?"

"I already told you that this is impossible. We are men, and there is no use in deceiving ourselves. There is no return for us. We can only try to use the hours which fate still allots us to increase our own knowledge."

Korus shrugged his shoulders.

"My own knowledge is actually of very little use to me, if I can not report it to my newspaper."

Egon replied seriously, "Each of us will record his observations exactly. We will act like a physician who knows that he must die and yet records up to the last moment his sensations and his study of his own body, hoping to help humanity thereby. Each evening we will together draw up a record and each time enclose it in a watertight beryllium case. If we are destroyed perhaps some chance might carry some of these capsules back to the earth and thereby benefit science."

Korus jumped up, again almost becoming a rubber ball, and pressed Egon's hand.

"Thank you, doctor!"

"What for?"

"I thought to spend my life as a simple reporter, but now chance or rather your energy is giving me a life-work."

The American also extended his hand, taking care however not to change his position, and said, "All right."

Egon got up, saying, "We cannot expend our electric light foolishly."

He pressed a button. On the right side of the ship the beryllium plates, externally attached, slipped away from the thick glass panes of the windows. At the same instant there poured in such a flood of infinite dazzling light that they shut their eyes, while Egon had to feel for another button and darken the windows again. Now he uncovered the windows on the left side of the rocket, and after the eyes of the three men had adjusted themselves again, they saw a most extraordinary sight.

About them was dense black space. There was no blue or cloudy sky, such as they knew on earth, nothing but a deep black.

And out of this black there shone, harsh, cold, sharp in outline, the stars. Back of them, directly behind, the earth could be seen as an immense disk gleaming in the sunlight, on which they could readily distinguish the different continents.

How It Is Done

KORUS shook his head.

"How incredible it is. We went up vertically, point on. Therefore the earth is below us; but we see it behind us. Yet we should have to stand with our feet on the rear wall and be with our heads toward the bow, which is 'up' for us."

"No," said Egon. "We were in this position as long as we were in the field of the earth. I already told you that for us now only the centre of gravity of the rocket determines matters. For us the destination of our flight is always 'ahead' and the place which we have left, this time accordingly the earth, is 'behind'."

"The rocket is a marvel."

"It is only the practical application of scientific knowledge which has long been known."

"One more marvel which I must ask you to explain."

"What is it, please?"

"We are at present exposed to the frightful heat of the sun's rays, which are beating down upon our rocket, unmoderated by any layer of air. How is it possible that we do not absolutely dry up and that the metal of our rocket does not simply melt?"

Egon smiled. "That is actually a secret of Mr. Apel," he said. "Now we have to endure not only the extraordinary heat but also, during the night, the chill of space with its 273 degrees (Centigrade) below zero. The entire ship is not only painted black but also covered with a substance which is absolutely impermeable to heat and cold, so that here in our cabin, independently of the outside world, we have at all times the temperature which we produce for ourselves."

"How is it on the moon?" asked the American.

"That I cannot tell you. This is the first visit there for me." The smile which had played about Egon's mouth at these words vanished again. "The astronomers hold different views. If Hörbiger is correct in his certainly very ingenious theory of congelation, the moon is an absolutely frozen body, without any atmosphere, having at all times the pleasant temperature which I mentioned, 273 degrees below zero."

Korus, who had already become an enthusiastic science student, said sorrowfully, "Then even if we arrive there and might be able to land, getting out of the rocket would be impossible. In such cold we would certainly freeze to death in a fraction of a second."

"That is not quite correct. Just because there is no atmosphere there, the cold cannot be transmitted to us, provided we wear over our skins a suit of the same material, impervious to heat, as the covering of the rocket, so that we do not give off our own bodily heat. Of course we must also wear absolutely airtight diving helmets covered with the same material and having oxygen cylinders in them, to make breathing there possible for our lungs."

Now the American had a question: "One last point. In this cabin there is at all times good air. Therefore it is probably constantly renewed by artificial addition of oxygen. But now you say that we have only a few more oxygen cylinders. Then a time willl soon come when we shall very simply suffocate."

"Not at present."

"How so?"

"Here we have followed further developments of the plans and ideas of Hermann Oberth. The consumed air flows through a black tube filled with potassium hydroxide, which runs along the shady side of the rocket. In this all the impurities are deposited. Only the purified oxygen and nitrogen are conducted to the sunny side, are warmed again there, and return once more into the cabin as perfectly good air."

"Then it is an eternal cycle which is carried on."

Meanwhile Korus had been looking intently out of the window.

"Where are we actually?"

"That I can tell you with fair exactness. Apart from the initial velocity caused by the explosion, which could not be recorded at all, we travelled during the first two hours, as long as we still had fuel, at the rate of 3600 kilometers an hour. Since the fuel gave out, our motion has become constant at 3000 kilometers an hour. Since we have now been about six hours en route, we have gone about 20,000 kilometers." *

"And how far is it to the moon?"

"The moon is about 360,000 kilometers from the earth. If we keep going at the rate of 3000 kilometers an hour, we should need therefore 120 hours for our trip, or, in round numbers, five days."

"And for how long a time have we food and drink?"

"It is accidental that we have any, because I expected to be only two hours en route. If Apel nevertheless insisted on my taking along the most varied sorts of supplies, it was done to test out which things were best suited, in case it became a question of longer flights later on. It was also because he wanted to have the rocket make its ascent, so to speak, with full war load."

A Feast In Space

WHILE Egon was busy examining his apparatus and making trials of the gyroscopic controls, which showed him that the rocket obeyed every touch of his hand with extreme ease, the two young reporters set to work to go over the supplies.

"Damn it, Joe Allister knows the right sort of things. Here are fifty cans of preserved meat, here are some vegetables, here is stewed fruit. Here is ship-biscuit—soda water—wine—coffee—evaporated milk—tea—cocoa!"

In truth, it constantly happened that they forgot about the lessened gravity, picking up the cans too quickly, so that these floated around like balloons.

The two young men became more and more pleased, since they saw that exactly the proper temperature for them prevailed in the various wall-cabinets in which they were kept.

The American put his hand on Egon's shoulder, saying, "We have food for at least six weeks, and now I am hungry."

"I too."

* About 12,500 miles.

(Illustration by Paul)

At last they saw the slender body of the rocket—waiting for them—luminous in the earthshine.

Egon roused himself from his thoughts.

"Then we will eat."

Korus gave a loud cry of joy, as he opened a new cabinet.

"Here is a whole meal ready. Even a roast goose."

Helmstätter stepped up, lifted the goose, and found under it a sheet of paper, which he read and at once hid away. There was nothing on it but the one name "Irene".

For an instant he had to collect himself, in order not to betray his emotions. Irene Allister had provided this meal for him. He choked down his emotion and said, "Let us eat!"

He drew out of the wall the little shelf which served as a table. The American fetched dishes and "silver" from the cupboard. Indeed, everything was of unbreakable metal. Korus brought the roast goose, white bread, and the other delicacies. Of course all had been packed in tightly closed containers so placed between metal spring-devices so that the pressure had not been able to destroy them. Now they all began to eat. At first they had to accustom themselves to the fact that whatever they took in hand seemed to have become incredibly light. The morsels flew right into their mouths, and when Korus wanted to carve the goose, the heavy bird seemed to him lighter than a postage stamp. It was a good thing for all of them that the ever recurring comical events kept giving them cause for laughter.

Then Korus opened one of the ten champagne bottles, which he had found among the supplies.

Likewise these bottles, which were not made of glass but of metal, like all the rest of the vessels, had suffered no injury. When Korus now loosened the wire, to open the bottle, the cork flew with a quite extraordinary violence against the ceiling, while the champagne shot like a fountain into the air.

"Of course, the carbon dioxide has a much stronger effect now, too."

Korus raised his glass, saying, "Here's to the first trip to the moon!"

The American drank the toast. Then he refilled his glass and said, "Here's to the first three travellers to the moon."

Korus responded, "Here's to the lucky chance that brought us together."

Egon had also emptied the first glass quickly, but now he merely sipped slowly. He looked at these two young men. They could not be much over twenty-five. Carefree youth appeared in their eyes. Enthusiasm and boyish frivolity had made them quite forget that they were doomed to death. He had heard of such young men, during the frightful World War back in 1918, who, unconscious of danger, obeying only the feeling of ambition, hastened with song and laughter to meet the deadly bullet. He could not speak to them. Their gay spirit cut him to the heart. Still he could not disturb their mood. He crept into the narrow room, aft in the rocket, to investigate the apparatus, to determine what had been destroyed at the start and what was still serviceable.

Again a long time had passed. Egon found by feeling about that he was lying full length in the narrow room in which the hydrogen pumps were installed. He had been reflecting. Mentally he had gone over what had probably happened when the rocket was so suddenly torn from its supports and hurled up into space. Of course the barracks and the Chinese were destroyed. It was a pity in the case of the poor devils being victims to opium!

Probably the island was split—his heart almost stopped. Close by the shore had been anchored Joe Allister's yacht.

The explosion must have cast up a most monstrous tidal wave. Surely the little yacht was covered with fragments and sunk.

Allister was dead—Irene was dead!

There was a pain in his heart and yet a feeling of calmness. He himself had no one on earth. There was neither a mother nor brothers and sisters to mourn the orphan. By scholarships and tutoring he had painfully secured his education. There was nobody dear to his heart except Irene Allister, and she was dead. Compared to him there was no person on earth so fit to sacrifice his life to science.

He returned to the cabin. It was late at night by earth standards. Exactly twelve-thirty. The first twenty-four hours of the trip were over. The measuring apparatus showed that they had gone 75,000 kilometers. Korus and the American were sitting at the table writing busily.

"What are you doing?"

"We are writing the reports for our newspapers."

Egon smiled sorrowfully and thought to himself, "Reports that will never be read." He seated himself and on his part wrote briefly the day's observations. Then he took from one of the cupboards a beryllium case which could be sealed. This container was actually intended for containing small amounts of hydrogen.

"Are you finished, gentlemen?"

They both handed him their reports. Each had carefully sealed his manuscript in an envelope, addressed to his newspaper.

Egon smiled again. He added his notes and sealed the case, which he put away in the cupboard.

"Now we will sleep."

All three stretched out side by side on the padded floor. The light was extinguished, and soon Egon heard his two frivolous young companions breathing evenly in peaceful sleep. He himself lay with open eyes. At ever constant speed the rocket shot through the blackness of space toward the moon, under the hard and brilliant stars.

CHAPTER IV.

Meanwhile

THE festive dinner in Cliff House in San Francisco had ended more quickly than had been expected. The fact that two of the chief persons, the financier Joe Allister and the pilot Dr. Egon Helmstätter, had set out so hurriedly before the great dinner, made it a less notable affair than had been planned. It was peculiar that after their departure a sort of unrest and oppression prevailed in the assemblage. After the coffee was finally served—it was now about eleven o'clock in the evening—James Barret, the owner of the New York *Ledger* and President of the American Press Association, rose and tapped his glass.

"Ladies and gentlemen," he said, "I have a proposal to make to you. We are all too uneasy to do any more dancing. It would also be idle to go to bed for two or three hours. Three hours ago Mr. Allister and Dr. Helmstätter set out for New Atlantis. Let us not deceive ourselves; we all have an inner feeling that some special reason caused this hasty departure. Here in this hall are assembled all the guests of honor who are to attend the start of the rocket tomorrow in New Atlantis. Down in the harbor the steamer is already prepared to leave. The night is perfect. What do you say to our all going now to the steamer and getting the captain to make the trip tonight?"

This proposal met with unanimous approval. In a certain measure it relieved their minds of the feeling of uneasiness. At once the automobiles started in a long line down to the harbor.

The ship had steam up, and the captain offered no objections. With all the guests of honor on board, the ship left the harbor at full steam half an hour before midnight. Even now the uneasiness among the passengers did not cease.

"How long is the trip to New Atlantis?"

"The steamer is very fast. The trip takes about two hours, but I am sure that we cannot land until early tomorrow. You may have a good sleep."

Nobody thought of going to bed. Each wanted to be the first to perceive in the sky the lights of the mysterious island of New Atlantis, hitherto closed to the world. After all, they could sleep in the harbor. So the cabins were empty, and everyone crowded on deck. Five hundred guests of honor were staring through telescopes and field glasses into the darkness of night.

An hour had passed, half the time of the trip. James Barret had just looked at his watch and noted that it was half past twelve.

Suddenly a light flashed up straight ahead, followed at once by a mighty column of fire, a volcano suddenly erupting from the ocean, spitting a whole sea of flames toward the sky. A pillar of fire which spread out on all sides, and then—after a few minutes—entirely vanished.

Nobody asked a question, nobody spoke, yet everyone knew that New Atlantis had blown up with the rocket.

Here and there were a few who timidly wondered whether it was only the start of the rocket.

Nobody had seen anything of the rocket itself in the fearful spectacle of the mass of flame rushing skyward. But after a few minutes the roar of distant thunder came over the sea. At the same time the hitherto placid ocean was suddenly wildly stirred up, and a monstrous tidal wave, topped with foam, raised up the great steamer, tossed it about like a toy, and pitched the people on deck in a heap. In another quarter of an hour the sea was as calm and untroubled as before, while the night sky was uniformly black everywhere. The captain stood on the bridge, which he had closed to all outsiders. The ship was rushing on with all the power of its engines.

New Atlantis had exploded!

Human lives in peril!

The radio operator sat in his room and listened, but no SOS call came to his ear. Did they need no help, or was everything, the island, the Chinese, the four guard ships, and Allister's yacht, completely destroyed?

Finally the second hour passed. There were a few lights ahead—no great illumination of the floating island but merely a few red and green lights of ships apparently at anchor.

The searchlight began to work. Signals were exchanged. On the bridge the captain had the loudspeaker connected to inform the guests of honor.

"A frightful catastrophe has occurred. New Atlantis and the rocket have been destroyed. Human lives are in peril. I urgently request you to remain quiet in dignified calmness, in order not to endanger the work of rescue."

Under Arrest

SILENTLY the steamer glided up to the other ships. The certainty of a dreadful catastrophe oppressed everyone. James Barret was sunk in reflection. He alone knew that the rash reporter All Right had set out in the evening for the island in the motorboat which Barret had purchased cheaply. Now his conscience smote him. Was All Right in some way responsible for this frightful calamity? Had he done something rashly?

Now it was bright on the ocean. In the east the first rays of the rising sun were beginning to color the heavens. The searchlights of the steamer illuminated the dreary waste of wreckage which a few hours before had been the island of New Atlantis. In the midst still floated on the waves a mighty piece of concrete, the central part of the floating hemisphere. On it there rose up the gigantic remains of one of the towers, a twisted chaos of distorted pieces of iron, looking like an immense question-mark.

A boat stopped at the ladder of the steamer. A gentleman painfully climbed up, guided by sailors, and behind him a lady. They were Joe Allister and his daughter.

Respectfully everyone made room for them. Without saying a word, without even lifting his eyes from the deck, the pale man who had just lost a million walked down the stairs to the cabin. Irene walked behind her father, equally silently, with a handkerchief pressed to her eyes, so that people could not tell whether she was weeping or ashamed.

In another hour the steamer had turned and set out again for Frisco. There was nothing more to be done. The survivors, unharmed, and wounded were safely lodged. Aside from two Chinese there seemed to be no dead to bewail.

There was murmuring on board.

"The rocket exploded!"

"Probably criminals had a hand in the game. Helmstätter must have suspected something. When he arrived, he saw a light in the rocket and wanted to interfere, but it was too late, he was destroyed along with the rocket."

"The *Swallow* was sunk by the wreckage that showered on it. It is a miracle that Allister and his daughter were saved."

It was five in the morning. They were already halfway back to Frisco. Some of the passengers were now sitting on the deck, some were gathered in groups in the saloons. All were talking in muffled voices.

The captain was in the pilot house when the radio operator, who had got a relief, entered.

"What is it?"

"A Japanese just put in this message to be sent. A radiogram to the newspaper Tokyo *Asahi* in Tokyo."

"What of it? Why are you so disturbed?"

"I understand Japanese. Allow me to read you this telegram before I send it."

The captain hesitated.

"Disclosure of the contents of a communication?"

"Captain, I think you will at once arrest the Japanese."

The captain and the radio operator came down from the bridge. The latter called a steward,

and the captain asked, "What do you know about the Japanese?"

"He had cabin 273, but apparently he was not on board at all when we left Frisco. It was only when we anchored at the scene of the catastrophe that he suddenly came down stairs dripping with water and had his cabin showed him. To be sure, he asserted that he had jumped into the water in an attempt to save a man, but I am convinced that he was not on board the ship at all until he got on at New Atlantis."

The captain knocked on the door of the cabin. It was some time before there was an answer and the door was opened.

Nagao Hazumi, who had occupied the cabin and brought his luggage there, was now wearing a suit in perfect condition. But he looked exhausted and weary. Probably he had been lying asleep on the bed, fully dressed.

"Who are you?"

"Nagao Hazumi, correspondent of the Tokyo *Asahi*. Here are my credentials as an invited representative of the press."

"You were on board the ship when we left Frisco?"

"Of course."

"Presumably I shall be obliged to arrest you."

"I protest."

"You seem to have caused the catastrophe at New Atlantis. It is useless for you to deny it. I have read your report of your secret visit to the rocket and your description of the calamity."

"Then you have violated the secrecy of a communication."

"As captain I am justified in so doing. I tell you that you may already consider yourself under arrest."

The Japanese smiled.

"I have committed no crime. It is not my fault that the explosion suddenly occurred. Do with me what you will. No one can take from me the glory of being the only journalist in the world who has seen the inside of the rocket and who was present when it left."

"You were alone?"

"You have absolutely no right to interrogate me."

When James Barret learned of the arrest of the Japanese, he drew a breath of relief. Then his reporter was not to blame.

Good News!

THE steamer was again in Frisco. The prominent persons were assembled in the great reception hall of the Allister house. Dispatches kept coming in, the first being from the Lick Observatory:

"Tonight twelve thirty in ocean about hundred miles west of Frisco supposed location of island New Atlantis saw ascent of rocket with vigorous production of flames. Rocket shot like lightning straight up leaving field of vision after few seconds. Made vain attempts to see it later inside atmosphere and in space."

Allister stared at the telegram.

"Then the rocket did not explode?"

Waldemar Apel said quickly, "The beryllium covering was of almost indestructible hardness. Besides, the force of the explosion was directed mostly downward, and the thin supports of the rocket offered no serious resistance to its departure."

Now Irene stepped up.

"Then there is hope?"

"At least the certainty that the rocket started."

"And will it return?"

"That is in the hand of fate."

"How long a time has passed?"

"Six hours since the start."

"In this time it must have gone around the earth presumably several times at least."

A radio message was sent to Madagascar, receiving an immediate reply: "Nothing seen of rocket here."

Radiograms came from all the ships at that time on the ocean between America and Asia. Many had noticed nothing at all. A number had seen a flash. Neither any ship nor any of the observatories had seen anything of the descent of the rocket, but some did indeed confirm the report of the Lick Observatory as to the ascent.

A whole squadron of airplanes flew from America and a simultaneous one from Japan, which examined the ocean.

The rocket had ascended, withstanding the first shock, and it was actually improbable that it would explode in the air. If it descended on the ocean, it could easily float, being much too light to sink. On land the wreckage would be visible. All the world was extremely excited. No one could guess where the rocket had descended, and still no news came.

Finally, toward evening, came a radiogram from a Japanese steamer. Something had been fished out of the sea, a crushed and battered object, but quite certainly a part of the rocket.

At once Waldemar Apel took a plane, to visit in person the Japanese steamer, which had headed for Hawaii. He returned during the night, bringing a monstrous but evidently very light bundle.

Of course everyone was still assembled in the Allister house. They marvelled at the contented face shown by the returning Apel.

"Do the fragments come from the rocket?"

"Yes and no. It is the auxiliary rocket, which was to be and had to be cast off at a certain height, in any event. It proved perfectly serviceable. Thus far the flight therefore seems to have been successful."

There was breathless excitement. While Apel was talking with Allister, the rest all whispered together.

"The flight was successful, but where is the rocket?"

Some cynic laughed, remarking, "The operation was successful, but unfortunately the patient died."

The Japanese Nagao Hazumi was interrogated before the court.

"I am no criminal, and I have nothing to conceal," said he. But recognizing that suspicion for the actual starting of the rocket might rest on him and that some one of the three presumably had accidentally turned some of the levers, he

admitted that the German Kurt Korus and the American All Right had been with him.

Since the Tokyo newspaper at once took his part and posted security for his appearance if wanted, he was again released and hurried with the judge to the Allister house.

(*Illustration by Paul*)

Instantly there was an explosion. Egon and the American were hurled through the door.

A short consultation was held, after which Waldemar Apel mounted a table in the centre of the room.

"Speech! Speech! Tell us all about it!"

"Ladies and gentlemen, there is no doubt that the start of the rocket was successful and that thereby the first part of our task has been accomplished."

Agreement, laughter, contradiction.

"The first part of our problem is solved, the construction of the rocket has proved excellent. The fact that the auxiliary rocket was cast off according to plan proves this. We are in no way responsible for the fact that the hands of—I must admit, not malicious but frivolous—young people caused the start very prematurely. On the contrary, the very fact that the rocket was not destroyed under these conditions is a proof of its efficiency."

Irene Learns the Truth

INTERRUPTIONS: "But where is it now?"

Apel's voice had become very serious and solemn. "It is as good as certain that it has not returned to the earth. Probably the excessive shock of this unpremeditated start stunned the three occupants. From the admission of Mr. Nagao Hazumi we now know that besides the pilot also the German reporter Kurt Korus and the American All Right have taken the trip, though very much against their will. This probably prevented them from managing the controls at the right time. Perhaps they only got control of the rocket after it had left the vicinity of the earth and decided to risk a flight into space."

"To the moon."

"Yes, perhaps to the moon."

More interruptions: "Or else, and this is the right idea, the three luckless fellows were instantly killed, and the rocket has become a flying coffin!"

"That is also possible, but in this case the blame rests on the two reporters alone."

He jumped down from the table, and there was a storm of voices. Excitedly they argued pro and con. News poured out into the city. Loudspeakers had received Apel's speech and

were roaring it out in streets and public squares, in the theatre.

Radio waves took it across the sea. In the entire world, starting from Frisco, in Europe, Africa, Australia, everywhere at the same hour thousands and millions of people were listening to the words of Waldemar Apel:

"Human beings have flown into space. The first travellers to the moon."

"The space rocket is en route!"

The next morning the newspapers of the world all gave monstrous pictures of the three travellers through space.

Nagao Hazumi was wild with rage that he had not gone, too. What was his report about the rocket now compared with the fame of his two colleagues? Bets were made as to the life or death of the bold travellers. The newspapers were filled with the speculations of all the learned men on earth.

Constantly squadrons of planes went out to sea. The wild mountainous lands in Asia were examined. An international agreement was made that all commercial radio communication was to cease at once and that every receiving station was to tune in immediately, if any news at all arrived about the space rocket. Reports poured in but proved to be mere fancy. Every passing meteor was thought to be a rocket. The whole next day passed without any telescope succeeding in seeing anything of the fliers and without their descending.

The excitement became almost immeasurable, but the rooms of the Allister house in Frisco remained closed and its dwellers refused to receive any visitors.

Irene Allister stepped into the room which Waldemar Apel was occupying during his stay in Frisco and in which packed suitcases now stood.

"A word, Mr. Apel."

The old man was amazed at her determined face.

"Do you believe that the men in the rocket are still alive?"

The old engineer looked into the girl's face and smiled understandingly. She was asking about the three but meant only one.

"I hope so?"

She became more insistent: "Can they be alive?"

"Why not? The rocket withstood the shock, and why should the cabin have suffered? Of course I cannot know what has happened, but I have hopes."

"Then you think it also credible that they will return?"

"If the steering apparatus has remained effective—"

She took his hand. "Mr. Apel," she said, "is there no means, no possibility, to help them?"

"I do not know. For now there would be only the task of completing the second rocket, which is built except for the putting together of the equipment. Then we could go to their aid, in case we should in some way recognize that they needed help."

"Why isn't that being done?"

"Perhaps your father has lost a million in the rocket. The after-searches have consumed a few hundred thousands. He is not willing to give any more money."

"How much is needed?"

"If I had a quarter of a million at my disposal to-day, the second rocket could be ready to start the day after tomorrow."

"Where is it?"

"At my private observatory on Mt. Atkinson on the edge of the Rockies. I built it there to make the experiment of starting from a mountain with the second rocket."

"Has father refused the money?"

"Yes."

"And is this why you are leaving?"

"Yes."

"Is this second rocket the only means of helping the first one?"

"Of course."

"Who should ascend in it?"

"I myself."

For a moment Irene looked seriously at Apel. Then she came to a decision.

"Please wait a few seconds for me."

Irene Decides

APEL walked angrily up and down in the room. He knew Joe Allister. Once this man had said 'no', nothing could change his mind.

Irene returned and handed him a piece of paper.

"What is that?"

"A check for two hundred and fifty thousand dollars."

Apel's face lit up. "Did your father actually do it?" he asked.

"No, he flatly refused. This is my inheritance from my dead mother. It is certainly all that I have, but I am of age and can dispose of my money."

"And you want to do this?"

"I regard it as my duty to save my father's honor. Joe Allister cannot do things by halves."

Again Apel gazed searchingly into her eyes, and an involuntary blush came to her cheeks.

"There is however one condition."

"What is that?"

"When you ascend, take me along."

"That is impossible."

"You said before that it was impossible for you to get the money. The money and I go together, either both or neither."

"You underestimate what this means."

"I underestimate nothing at all. I have ordered my car, which will be ready in half an hour. At any rate, I have to give up saying farewell to my father, because he would prevent my going. I am going with you by the fastest route to Mt. Atkinson. You will at once order by telegraph everything necessary to fit out the second rocket. You will instruct me in everything necessary for being your assistant. You know that I have studied mathematics and science. I will not be a troublesome pupil."

Apel still hesitated. "I dare not, on account of your father."

"Do you dare to abandon your pupil, who has offered his life for your undertaking?"

Apel put the check in his pocket. "Well, be it as you wish," he said.

Then he stepped over to her. "One serious word, Miss Allister," he said. "You know I am old enough to be your father. Is it just an overwhelming love?"

She became embarrassed, but she shook her head.

"I do not know whether I love him—love him so—"

Then her eyes began to shine.

"But I do know that I envy him from the bottom of my heart, that I should like to be at his side, that my heart is full of enthusiasm. I believe in the rocket. Let me have my wish."

She released her hand from his and stood in the doorway.

"I shall see you in half an hour."

Apel gazed after her and straightened up. He himself had almost lost courage, but the confidence in these two girlish eyes, so full of life, gave him back his strength and vigor.

CHAPTER V.

The Moon at Last!

ANOTHER day and a half of the flight had passed. During the last twenty-four hours Egon had hardly left the steering controls. The three men were in the greatest excitement, for the yellow, ever brighter disk of the moon was becoming larger and larger.

On the evening of the fourth day—the fourth terrestrial day, that is—the moon suddenly became totally different, losing its yellowish light. It looked monstrous and brilliantly white, like a vast field of ice, out of which there rose a countless number of round craters, some of them very wide.

At the same time they perceived that their speed was becoming more rapid, the velocity meter mounting higher and higher. Likewise they suddenly saw that the rocket was turning. They were no longer approaching bow-on but were falling stern first, this being the part where the centre of gravity was.

The three travellers to the moon felt as though the rocket had not turned but had stopped for a moment, wavered, and were then sinking down.

All Right and Korus stood together in terror.

"Now we are lost, after all."

"Of course we shall get smashed on the moon."

"Man, can't you do anything to check the fall?"

"Haven't you a parachute?"

With a smile Egon pointed to the velocity meter. "See," said he, "we are floating down very slowly. The velocity we had in space is now adapted to the slight force of attraction of the moon. Anyway, a parachute would be useless, because the moon has no atmosphere."

At this moment the velocity meter stood still. The journey was ended. The doctor made the metal shields of the windows, which he had closed, open again. The three men uttered a cry of astonishment. They were now floating perfectly still above the moon.

Egon was very much moved.

"Gentlemen, whether we return or not, this moment is a turning-point in the history of mankind. It is a triumph of science and technology. Man has conquered space."

"Shall we be able to land?"

"Certainly, if we dress ourselves properly and take care to carry with us oxygen to breathe."

They stood there, unable to tear themselves away from the sight.

"Let us hurry."

"No, let us be calm. We will eat and rest. You know that for thirty hours I have not left the controls. We must not be too hasty."

"What if something drives us away again?"

"Of course we shall cast anchor."

For the first time the air-lock was opened, which had the form of the connection between cars on a German express. Egon changed his clothes, put on his diving helmet, and warning the other two to stay back, he stepped out. He cast out the heavy anchor, while for the first time his eyes took in fully the lunar landscape.

In this splendid moment he wished to be alone.

The preparations for leaving the rocket were finished. The three pioneers of lunar investigation certainly looked most remarkable. Next to their bodies and fitting very snugly, like a second skin, they wore thin clothing of the material whose composition was the secret of Waldemar Apel. This was to protect them from any loss of warmth. They were not acquainted with it and had not yet tested its effect, but they were given confidence by the fact that they had suffered from neither heat nor cold in the rocket, which was covered with the same substance.

Nevertheless, the next moment was another leap in the dark, a rash venture.

Was the moon actually nothing but a frozen lump of ice? Did the deepest cold of space prevail there? If so their death would be certainly instantaneous, if the material did not prove effective, likewise if even the tiniest opening or hole admitted the cold to their bodies. Over this relatively thin garment each wore a leather suit. Actually they would not have needed any other clothing. If the artificial skin was impenetrable to cold, any more clothing was superfluous. Still they picked out the stout leather clothes which Waldemar Apel had made for this purpose and packed in the rocket, not for warmth but to protect the artificial skin from any injuries and holes. On their feet they wore heavy boots shod with thick lead plates. That too was necessary, in order to bring their centres of gravity down to their feet. Lastly they fastened on their heads the large diving helmets which Apel had made. These also were completely lined with the substance impermeable to heat. It was done in such a way that this material, which they called the artificial skin, fitted around the neck very snugly to the natural skin. Just this point was very dangerous, because otherwise the unprotected face would be struck by the cold.

It had taken Apel's chemists weeks to produce from this substance a transparent solution with

which they could coat the eye-pieces of the helmet on the inside and make them also safe from the cold. These eye-pieces were cut from the finest crystal and were colored like snow-glasses.

Of course the mouth was also cut off from the outer world. Opposite it, to enable communication, a telephone diaphragm was set in.

That an oxygen cylinder and an apparatus for making possible free breathing were included, is obvious.

Egon Descends

THE three men, who now had more semblance in looks to prehistoric monsters, were all ready. The American carried on his back an ax and a bag of tools. Korus had a similar equipment. Egon carried, on cords likewise covered by the artificial skin, thermometers, telescope and field glasses, and surveying instruments, as well as various other scientific apparatus. Moreover, each held an alpenstock in his hand. They did not take along any food or drink. These would have been useless, because they could not have eaten or drunk anything without taking off their diving helmets and therefore instantly freezing to death.

Egon stepped to the door which led to the air-lock.

"I shall step out first. In case, in spite of all our precautions, I should be instantly killed, do not bother about me but shut the door and think of your own safety."

There was a remarkably strange sound to the speaking and answering through the diaphragm of the helmet. Moreover, what Egon said was really foolish. If they did not succeed in finding on the moon by some lucky chance, by some unsuspected discovery, a possibility of returning, then a sudden death was the best thing for them.

Egon now stood in the air-lock and carefully opened the outer door, after having taken pains in closing the door leading to the cabin. It was vitally necessary to use this air-lock with incredible precaution, so that as little as possible of the air in the cabin should be lost.

At any rate Egon had not felt the cold at all. He reflected for a moment, bent down to grasp the anchor rope, and then stood with his feet in the soft white moss of which the moon seemed to be covered.

He saw that the heavy anchor who had been let down had not taken any hold but was lying free on the ground.

A frightful terror seized him, and for some seconds thoughts raced through his brain. What if a storm came now? How did he know whether there were storms in the moon? What if some force drove the rocket away? The possibility of being all alone in this dreadful place, the frightfulness of which came to him most overpoweringly, filled him with horror.

At this moment he felt that the presence of the two undesired companions was the greatest benefit that fate had given him.

He wanted to go over to the anchor. He took a few steps, looked about in surprise, and perceived that he was already far past it. What a peculiar way of walking! It actually was not walking but a sort of floating along, as though on an immense spring-mattress, a combination of hopping and floating.

Every step took him infinitely further than it would have on the earth. As he tried to jump over a fissure with his alpenstock, he shot high into the air and landed twenty meters beyond. He smiled to himself. It was necessary to learn how to walk on the moon. First he had to understand using much less of his muscular strength than on earth, in proportion as was required by the so much lessened force of attraction of the moon.

At the same time the considerable weight of his equipment caused him no trouble at all.

Finally he landed beside the anchor, after much jumping back and forth, and looked for a chance to fasten it. This was quite needless, for when he tried to lift the anchor, he noticed that he could not budge it, because it had long since been frozen fast to the ground.

Egon now pulled at the rope and found it easy to wrap it around the anchorstock, which stood upright. In pulling the rocket down he worked it into a depression so only the ends touched the ground, to avoid its freezing fast to the ground.

Now he returned, reentered the air-lock, shut the outer door, and loudly called into the cabin: "Come quickly."

There was no answer. He repeated the shout, but nothing stirred. Again he was frightened. Had something happened during his absence? He opened the inner door. There the two reporters were standing right before it, waiting for him. They had not heard a word, and he thought he had screamed.

Then all three entered the air-lock. The inner door was very carefully closed, and they quickly stood on the moon and looked about.

The sight was full of horrible splendor. At their feet was not, as Egon had at first thought, soft moss but rime-frost and pretty ice formations. A rough ground stretched out about them, dead and hard, furrowed and traversed by rifts.

The sky was neither blue nor arched, as on earth. Flat and black, it weighed down on the moon. Everywhere in the sky were the stars, extremely brilliant, like sharp, hard, coldly luminous points. The constellations were of course of the same shape as when viewed from the earth. It was striking that they were seeing the stars by day—the lunar day, that is, which is equal in length to fifteen terrestrial days.

A Scene of Madness

BACK of them stood the immeasurably bright sun, but they had no sensation of warmth from it. Even right under its rays the ice did not melt. There was merely a very thin layer of mist over the ground. The sun's disk itself appeared of about the same size as it does to the inhabitants of the earth.

Compared with the almost incomprehensible distance of about one hundred and fifty million kilometers lying between the earth and the sun, the three hundred and sixty thousand kilometers

which the visitors to the moon had traversed seemed only a trifle. On the other hand, the earth, which now appeared to them as a "moon", was shining brightly among the fixed stars with a disk almost four times that of the sun.

The centre of this disk, the ice field of the pole, shone immeasurably brightly. Just as the mountains of the moon appear when viewed from the earth somewhat like the face of a man, thus even the naked eye could recognize from the moon the different parts of the earth.

For a moment Egon tore himself away from the mighty spectacle and cast a glance at his thermometer. It was a petroleum instrument which could measure the degree of cold down to two hundred below zero.

It did not work, it was frozen!

The congelation theory was correct. It was not necessary to have a better instrument. The chill of space, two hundred and seventy-three degrees below zero, was all about them. He straightened up to tell this news to his two companions. He was full of admiration for the artificial skin which was able to protect them from this infinite cold. At this moment he saw a most remarkable sight.

Korus and the American stood facing each other, apparently having a lively conversation. They made more and more violent motions with their hands and arms, such powerful gestures that they leaped up from the surface of the moon. They seemed to be expressing despair and horror. Suddenly they began to run in great bounds to the rocket.

The spectacle would have appeared grotesque and comical if it had not been so terrible here in this dreadful scene. The two men, in their evident haste to reach the rocket, jumped with their sticks almost as high as a house, floating down again to the moon. They did not understand what was happening to them. They would look around and then jump back again.

Egon could not help thinking that both of them had suddenly lost their reason. He ran after them, waving his arms, and caught up with them just as they finally had reached the air-lock and were getting in, pulling at the cabin door without any regard to precaution in opening it.

He was right behind them and shut the inner door. Now he heard the two men bellowing at each other at the top of their lungs, "Don't you hear me? For heaven's sake, don't you hear me?"

But now, when their voices resounded with such a roar, they became silent and stared at each other.

"Gentlemen, what is the matter?"

Egon could not understand and was disturbed at the idea of having two lunatics there with him.

"Outside we were deaf—or dumb—or deaf and dumb!"

"We tried to talk together. We shouted as loudly as we could, but neither could hear anything."

Then Egon smiled, though of course the other two could not see the smile on account of his helmet.

"We forgot one important thing, but we have also made a discovery already."

"A discovery?"

"You two have just given a striking demonstration of the fact that there is no atmosphere at all on the moon. You have spoken, but if there is no air, then there are also no waves to transmit the speech vibrations. So even the greatest noise cannot be heard. Even if the whole moon blew up, it would occur perfectly silently."

"Well then?"

"Gentlemen, we must get accustomed not to be frightened by anything. The first hour of our stay in the moon has already assured us of three certainties: the chill of congelation, the absence of any atmosphere, and accordingly the impossibility of the existence of any living thing on the moon, anything corresponding in the least to our ideas of life—no person or animal or even plant or primary cell. It is a marvellous fact that we three inhabitants of the earth are the only beings on this dead heavenly body, the one-time planet Luna. Let us go out to experience more."

The three men did not consider for a moment that they themselves were doomed to death. They did not even think of looking for some possibility of rescue. They were completely absorbed in the enthusiasm for their infinite field of investigation.

Now indeed each of them carried with him a little ivory tablet and a pencil for writing on it. Again they became rash, leaving the clumsy leather gloves in the cabin and contenting themselves with the artificial skin, which to be sure was double thickness on the hands. When they needed to exchange their impressions, they used writing instead of speech, which was unknown on the moon.

A Hope for Salvation

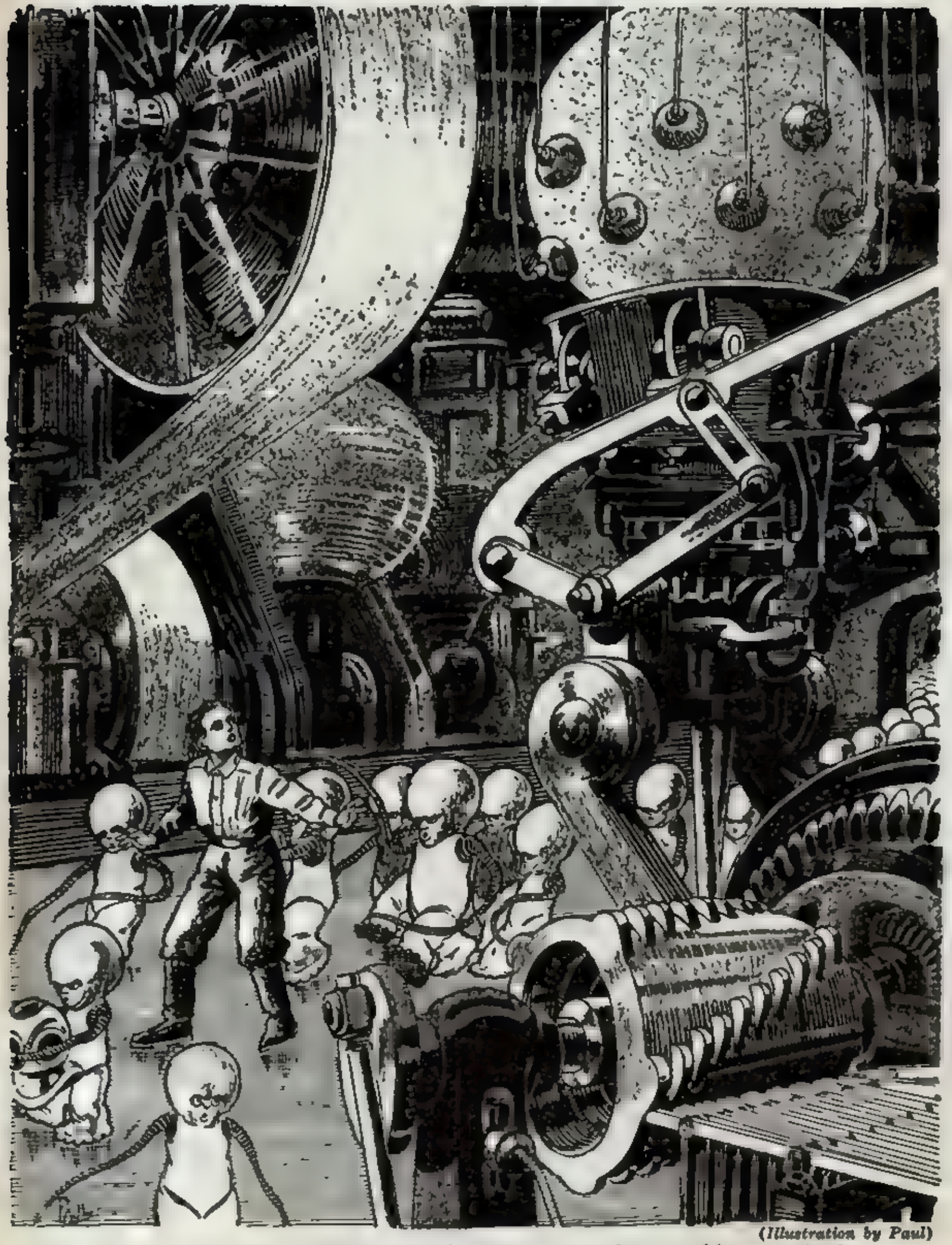
THERE was a new marvel. On looking about, it seemed to them that their field of vision was a very different and much more limited one than on the earth. Korus shrugged his shoulders, shook his mishapen head clumsily, and made use of his alpenstock as a jumping stock. In one bound he mounted a mass of rock nearly as high as a house. At once the American followed, with Egon right behind.

Here too the limit of vision, the horizon, was barely twelve kilometers in diameter. Egon understood the questioning gestures of the other two.

"Of course," he wrote on his tablet. "The moon is so much smaller than the earth that the spherical (or nearly spherical) shape that it possesses is much more evident. That is why the field of vision is so much more limited."

They looked about them. They had landed in the northern part of the moon. The exact place they could not determine, because they did not have nautical instruments and anyway would hardly have understood how to use them, if they had had such things.

Not far from them, perhaps sixty-five kilometers, a very high mountain appeared to be located. Egon was able to recognize this on the lunar map which he carried hung on a cord. They also noticed that to the west of their position on the block of ice it was considerably darker, that



(Illustration by Paul)

He went through a mighty room, in which tremendous machines revolved their wheels and raised their iron arms.

there were deep shadows there and a strange bluish and reddish shimmer to the edge of the ice.

While Egon now took his telescope and observed the earth, making comparisons with his watch as the hours passed, he found out that the seas and lands of the earth, plainly recognizable through the telescope, could have served him in lieu of a clock, as they slowly changed their position. This would be well in case his watch ceased to work, but it was of such perfect manufacture that it required no oiling, which was well, since it would have been stopped at once by the freezing of the oil.

He looked about, and again a sorrowful smile came to his lips, concealed in the helmet. What harmless frivolous children his comrades were! The two young reporters had again jumped down from the rock or rather from the gigantic block of ice. A spirit of sport had awakened in them. They were amusing themselves by throwing little pieces of ice into the air. When they saw the bits of ice rise up for two hundred meters or more, they would bound around for joy like rubber balls. The pieces of ice flew almost out of sight and then slowly floated down again like tufts of cotton.

In mighty leaps they were playfully engaged in surpassing by vast margins the best jumping records on earth. Egon interrupted their certainly very interesting games by writing on his tablet, "Now we must go back to the rocket and eat."

He had more serious things in mind than hunger and thirst, but he knew that these two human requirements would be most enlightening to the first lunar sportsmen.

Again they entered the cabin, carefully shut the air-lock, and took off their helmets. The artificial skin had done its work well and did not show the least abrasion.

Now they perceived that the exertion of their limbs had made them really very hungry. After they ate, Egon commenced the conversation.

"An idea has come to me which may perhaps prove our salvation, our only hope is to get hydrogen and oxygen, to refill our apparatus with the necessary mixture of gases. As you saw, I brought some snow along and I have melted it on our electric stove. It became water, but unfortunately we have no equipment here for decomposing the water into its chemical constituents. Still I do not think it impossible that we might find at least one of these two substances alone in the form of snow. There is an opinion that in the depths of the so-called lunar craters there sometimes occurs, if not an atmosphere, still some hydrogen mist at certain times. We must look for this. That is why I am in favor of sleeping now and undertaking a long trip tomorrow. Look at the map of the moon. About sixty-five kilometers from here lies a high mountain. It is Pico, who belongs to the so-called Plato system and is about a thousand meters high. I was pleased to see by your sport how quickly we can get along by great jumps. I am sure that in a few hours we can reach the mountain."

The American raised his head. "But tomorrow," he said, "we shall be in darkness. The moon rotates, and so tomorrow we shall be on the side turned away from the earth.

Egon laughed. "You are right and wrong," said he. "My wish is to get to this part of the moon which is turned away from the earth, for I hope that we shall find there what we need. If you had had more to do with astronomical matters, you would know that in spite of its rotation the moon always keeps the same side turned toward the earth and that the other side is a mystery forever hidden from us dwellers on earth. Otherwise the so-called face of the moon would not always remain the same. Therefore it is my intention first to climb the mountain and then to see whether it is possible for us to get a look into the part of the moon turned away from the earth. We will sleep now and start out early tomorrow. Certainly it will be necessary to eat and drink as much as possible tomorrow morning, for en route we can under no circumstances eat anything at all. For that reason we shall perhaps be forced to go without food for twenty-four hours or more."

Two Days Left!

BOTH of them smiled depreciatingly.

"Is that all there is to it?"

Korus put on a sorrowful expression and said, "I am bitterly disappointed."

"Why?"

"Because we are destroying a great hope for the world. The moon is dead; there are neither men nor animals in the moon. We have accomplished something incredible, and it is useless. Why visit the moon? Why spend many millions to travel through space to prove that the moon is a perfectly useless body?"

"Not entirely so. It would be wonderful to construct an observatory on the moon and be able to study the stars and their conditions without being hindered by our atmosphere. Think how it would be if our plans should succeed! An observatory on the moon! A building of the same material as our rocket, covered with the artificial skin, with oxygen and nitrogen for breathing, perhaps obtained from the lunar snow, so that there would be a good atmosphere in this building, which we could construct as large as we liked. Think of a number of persons in this building, constantly connected with the earth by rockets. Astronomers investigating space, perhaps proving the fact that other planets can be inhabited. The moon as a sort of halfway port, let us say, for terrestrial travel into the immensity of space —the moon as the terminal of terrestrial local traffic, from which the great perfected space ships will set out for other planets.

"Consider further. From this secure house as a starting point or base, mining engineers could penetrate the depths of the moon. Under the covering of ice, the thickness of which we cannot determine, there is a solid nucleus. Who knows what it consists of? It may contain precious metals or even metals which are still totally unknown to us and which may direct industrial conditions on the earth into entirely new channels. The very fact that here and in space gravity has hardly any effect makes it possible to bring great

loads without trouble from the moon to the earth. Consider all this, consider the many possibilities, and see whether you think our journey useless!"

The two became enthusiastic. "Then we have nothing to do but find the two gases?"

"Nothing but that, yet unfortunately infinitely much. For if we cannot find the precious snow, then our plans are rendered vain and we are lost."

There was a pause, with all three sunk in thought. Then the American spoke again.

"I am not sure, but this evening, I feel duller than usual. It seems to me as though the air in the cabin were getting worse."

Egon nodded. "It is so," he said. "Of course good air escapes into the air-lock every time we open the door. It is also possible that the fact our rocket is standing still may affect the purifying apparatus."

"We will use an oxygen cylinder."

"We cannot. In all we still have seven such cylinders. Each of us needs one each day. Therefore we have two days left to live on the moon and one cylinder over!"

For a moment the two were terrified, but then Korus said, with an effort to give conviction to his words, "We must find the snow tomorrow."

Egon agreed, "We must find it."

The American yawned and stretched out on the floor. "All right, then we will find it," said he.

A little later the two reporters were lying side by side and sleeping as cheerful as young people can. Egon stood at the window, from which the metal shutters were slipped back, and looked out. The moon! This wide expanse, covered with rime-frost and slight mist that crept along the ground, this place of icy ground and eternal stillness, of motionless immeasurable nothingness, was the moon. The great puzzle of mankind. The melancholy friend of the dwellers on earth, in reality their greatest enemy. The moon, the cause of the ebb and flow of the tides. The moon, which had been slowly coming closer and closer to the earth, until finally the day should come when it would shatter into a storm of ice and a hail of rock, bursting upon the earth and causing a new deluge, perhaps a new destruction of mankind.

And he, Egon, was a human being, a living, breathing, young man, whom rashness of mind had brought here and who, unless a miracle occurred, had only forty-eight hours more to live.

CHAPTER VI.

Ghost Shapes on the Moon

MANY preparations were necessary for the great trip on the moon. After they had intentionally had a long sleep, they spent almost all the next day getting ready. That means the earthly day: on the side of the earth turned toward them, on which they could plainly see the American continent, it became night, while the lunar day (of fifteen earthly days) still had about seventy-two hours remaining.

They ate, bathed in water made by melting lunar snow, and carefully considered everything. They were very cautious in the selection of their food. They avoided all unnecessary liquid and ate, of the numerous preserved foods which were keeping perfectly fresh, almost nothing but some tender meat. They did consume a great tin of frozen oysters which they found.

They had to manage to secure the highest possible nutritive value with the least possible waste matter. The impossibility of opening their artificial skins even for a second forced them during the entire long trip ahead of them to give up all eating and also to suppress all human needs.

They were again equipped as on the first day. It was entirely indifferent at what hour they started, since it was light on the moon.

The journey was far from simple. On the map they had determined that the high crater-mountain lay some seventy kilometers northward, but of course they could not use the terrestrial compass. They had no idea how the compass needle would behave on the moon. Thus they had only the possibility of guiding themselves by the earth. But the latter was dark this night. By way of parallel to the terrestrial new moon, there was a sort of "new earth". To be sure, the earth was not invisible but was covered with a soft reddish light, and this earth, along with the constellations, the position and motion of which Egon had been observing all day, had to serve as their guides.

For the three men, now well rested, the trip was at first splendid. They did not feel like human beings but like giants. With light springy strides they hurried on, not feeling the weight of their loads at all. With their alpenstocks they leaped readily over rifts ten and fifteen meters wide. If anything put a damper on their delight in travelling, it was simply the fact that they could not converse together. Again and again Egon, who often stopped to make observations, had to hurry after his frivolous young companions and admonish them in writing not to leap too rashly. A fall into one of the deep crevasses, perhaps causing broken bones, would have been terrible.

At first they felt as though they were jumping along on springy rubber cushions. They had the sensations of unpracticed skaters not yet able to keep their balance.

The region became wilder. Immense blocks were heaped up to make steep slopes and hillsides. A mighty mountain towered before them. Their jumping had to be done more cautiously, but even the mountain offered them absolutely no trouble. It took an hour and a half before they had reached the summit, which now proved to be an extensive ridge.

Again they beheld an impressive sight. The huge so-called crater of Plato lay before them. The mountain wall sank down in immense icy steps, going steeply down for several thousand meters to a vast plain. It looked like a frozen ocean, on which little islets rose up, as well as very tiny craters looking almost like ships on this ocean.

It was the mightiest and most superhuman skating rink that a fantastic imagination could picture to itself. The crater of Plato, which when seen from the earth presents almost the impression of a volcano, proved to be a plain almost

a hundred kilometers across, which appeared low only in comparison with the mountains of the wall about it, whereas the sharp light reflections showed it otherwise to terrestrial telescopes. In this plain the spherical shape of the moon was plainly evident. To the north higher mountains rose. The lunar evening and the closer proximity of the edge of the moon, that is the limit of the half which we can see from the earth, made the oblique sun's rays produce huge shadows. Stretches which looked like newly fallen snow alternated with other stretches which appeared grey or very dark. Where light rime covered the ground, the glitter of the ice blended with the grey of the shadows to make dark tones which shaded off into black.

Great fragments cast dark shadows and made enchanted giant forms or huge monsters on the frozen slopes. The latter themselves now presented the appearance of vast lava beds which had suddenly frozen to ice, in the midst of an eruption. A most uncanny sight! This dead world, this complete silence, this motionlessness, and over everything, slowly moving along, the shadow pictures of colossal ghostly beings.

The Coming of the Meteor

EGON had often bent over to see whether loose snow were present on the icy surface, but he had found none. He pointed with his hand and they continued on their way. They went northward along the ridge. The indentations became wilder and more jagged. More and more frequently they encountered wide deep abysses into which they had to climb. It was well that the American had wrapped around his shoulders the lasso which Apel had put in the rocket for contingencies.

Now the going was more difficult. They had to tie themselves together and jump at the same time. On the earth such travelling would have been simply impossible. Hours passed, and they went higher and higher toward the north. The mountains became wilder and greater, the shadows longer and longer. At times they had to pause, and Egon always determined that there was no loose snow either up on the heights or down in the low places.

They had been eight hours en route. Eight hours of uninterrupted climbing, jumping, and walking. Behind them was such a march as no person on earth would have made. Now they were again on the top of a ridge, where they sat down. On the moon, with its chill of space, it was quite indifferent whether they were high or low, in the north or on the equator. They themselves, due to their artificial skins and their oxygen to breathe, were like little individual worlds. The differences in temperature caused by the solar radiation or by night were imperceptible to them.

Up on this summit, which, already far north of Philolaus, was not even marked on Egon's map, not only was Egon seized with the greatest excitement but also the feeling of an extraordinary moment came over his young comrades as well. To the south, from which they had come, lay a deep twilight, gradually becoming brighter, until far in the distance the mountain peaks which they had crossed hours before shone in the brightest and most glorious sunshine. But on the other side it was absolutely black. As totally black as if a wall blocked vision here. Even the stars, which here too shone down from space in their hard brilliance, could not send a gleam of light into this half of the moon, now temporarily turned from the sun and always turned from the earth.

There stood the three men, hand in hand, forgetting their weariness. Their souls quickened at the immensity of the thought that they were the first sentient beings, the first men, to whom it was granted to gaze into the nightly blackness of the half of the moon eternally invisible to the dwellers on earth.

They were sitting again on a block of ice, aware that their journey had come to an end here, because it was useless to descend into the night. But they did not consider that the aim of their journey had been vain, they did not think of the fact that ten hours of a frightful return march lay before them. They were unable to tear themselves away.

Suddenly it became brighter. They looked up. A little star, far brighter than the others, was in the sky. Its light became more and more intense, and it rapidly came nearer.

"A meteor, a shooting star!"

All three knew what it was. They saw the meteor speeding quickly on toward them. They might perhaps have felt a warmth, but the airless space here remained unmoved, whereas on earth a fearful cyclone would certainly have been produced.

It took only a few seconds. They stood close together. Their hearts almost stopped beating. They felt as though the meteor would strike them and crush them. For a few instants everything became as bright as day. It showed a landscape exactly like that over which they had travelled, full of mountains and abysses, full of white expanses and towering craters. All this appeared out of the darkness, and then the meteor struck. It struck the moon, tore up fragments of ice and rock, and bored a huge hole. But all this happened silently, as if in a picture cast on the screen of the silent movies.

Egon shouted aloud for joy, although he knew that no one could hear his voice. For some seconds the spectacle was of indescribable beauty, but this beauty filled him with a feeling of infinite good fortune. The meteor had smashed into countless pieces, and wherever these little white-hot fragments struck, they lit up a thousand times more brightly, burning for a few seconds with a very luminous flame, only to go out again very quickly, overcome by the cold.

This had lasted only a few moments, and again the black world of night extended before their dazzled eyes. It was now so dark about them that Egon could not even write, but he beckoned with his hand, took a little electric flashlight, which he had brought along in spite of the head-shaking of the two reporters, lit it, and began with quick steps to go down the mountain. The other two followed hesitantly.

It was a relatively gentle slope on which Egon now descended into the depths like a mountaineer. The two had to stay above, for about them it was dark, and they could not have ventured following him into the abyss.

The Long, Long Road

TWO hours passed, during which Korus and the American had to stand idly up there and simply watch the tiny light of the flashlight, the only thing they could see in this absolute darkness, moving about very far from them.

At last they perceived that the little dot of light was again approaching them. Two more hours passed, while Egon was very slowly climbing the mountain, apparently with difficulty.

He reached them and sank evidently exhausted to the ground. Now, up here in the twilight, they saw that the empty knapsack which Egon had carried on his back was now full to bursting and that he had also brought along in his left hand a great chunk of frozen snow.

It took Egon a long time to recover. Then he stood up and gestured to the others, since it was too dark for writing, to take off their knapsacks. At the same time they saw that Egon no longer had the ax which he had taken down with him.

They did not well understand it all. But when they saw Egon take off his knapsack, remove from it some great chunks of ice, strange ice, which seemed to be granular frozen snow, and when they saw him break up with the second ax the block of ice which he had brought under his arm, finally packing everything into the three knapsacks, they felt that Egon must have found something important, not merely some pieces of the meteor.

They set out and travelled again toward the light. Their bodies were weary, very much exhausted, and were craving sleep. But the feeling that every step brought them nearer to the light gave them strength. This chill, harsh, heatless light seemed like a kind friend to these men who felt as though they were coming up out of hell.

The going was terrible. Their weary feet threatened to give out. The hunger of the long hours weakened them. They were tormented by thirst. For the first time since they had left the earth they felt sweat breaking out on them, and it felt as though this sweat made the artificial skin stick fast to their bodies.

Again and again they had to rest. Again and again their eyes closed, and they had to shake one another to get rid of the overpowering sleep. Almost twenty-four hours had passed since they had left the rocket, when finally they stood again on the crater wall of Plato.

It already almost seemed to them as though they were at the end of their journey, yet between them and the rocket was still almost seventy kilometers. Two long days of tramping, if they had been on the earth. At least it was again bright about them, and they could write on the tablet, though with trembling hands.

"We must throw off the knapsacks, we cannot keep on."

Egon read this, shook his head, and wrote, "We must take them with us. I hope that we are saved."

This word "saved" had a magic effect. The other two had become far too much accustomed to rely on Egon without any question, for them to have doubted. They rose again and once more tried to jump.

Now the way was downhill, and this made going easier, though more slow than at first. Egon had to collect all his power to find the way again, but then it seemed to all of them as though they were already at home, as though all trouble and danger were over, when at length they saw from a great distance the slender body of the rocket waiting for them, just as they had left it, shining in the earth's rays.

Exactly twenty-six hours had passed by the time the three dead-tired men finally stood before the rocket again and took off their knapsacks, as Egon directed.

Even now Egon motioned to them to wait another moment. He took the second ax and broke from one of the chunks of snow-ice a piece about a hand-breadth across. Of course he had to sacrifice the knapsack, for this in the meanwhile had been frozen with its contents into a single solid mass.

They went very cautiously into the air-lock and then rushed into the cabin, while Egon carefully closed the door again. Now this narrow cabin was like a pleasant home to them. They removed one another's helmets and drew deep breaths, though the air in the cabin was already pretty bad. But likewise the oxygen cylinders in the helmets were almost completely used up, so that in the last hour breathing was very difficult. After some time they forced their weary hands to open some tins of food, which they ate without caring what it was.

All Right and Korus sat on the padded bench and watched the strange procedure of Egon. Even during the undressing for dinner he had kept looking at the little piece of frozen snow-crystals, which he had placed on the floor. Now he took a little pair of tongs and held a needle with it, made it red-hot, knelt down, and very cautiously held the glowing needle over the frozen mass.

"It does not melt, it does not become water!"

The two did not understand why Egon was so happy about it, but he again made the needle red-hot, went quickly over to the lump of ice, and stuck the still slightly glowing needle into the mass of snow.

Now the two journalists also jumped up and watched more closely. Instead of being extinguished, the needle glowed very brightly and began to burn with a bluish flame.

The two could not understand. "What does that mean?" they asked.

Egon had forgotten all his weariness. "We are saved," said he. "The meteor has shown us the way to salvation. This is oxygen snow, frozen oxygen. Pure oxygen, without any mixture of hydrogen, for otherwise the mass would have melted to water or would perhaps have formed detonating gas. Now we are saved for the present."

But in this moment, which took a great care from his mind, his nervous energy had reached its limit. He simply lay down on the floor and went right to sleep. Korus and the American si-

(*Illustration by Paul*)

Both of them stood as tho turned to stone. There were gigantic letters in the sky—S-O-S!

lently followed his example. A few minutes later, if an outsider had suddenly entered the cabin, he would have seen just three peaceful faces of comfortably sleeping men.

An Oxygen Frenzy.

IT was only about three hours later that the American suddenly awakened and began to laugh loudly. He laughed so boisterously that Korus woke up and stared at him.

"What is the matter?"

"It is so incredibly funny!"

Korus looked into his laughing face and also burst out laughing.

"You are right, it is terribly funny—it is a scream!"

While they were trying to see which could laugh louder, Egon woke up also.

Korus slapped him on the back and shouted, "Come on, boy, join in and be happy."

At once Egon also began to laugh.

They stood up, forgetting all about sleep and their weariness. Korus clasped the American and tried to do the latest negro dancesteps with him, while Egon—the usually so serious Egon—accompanied them by singing loudly and beating time on the electric stove with the tongs.

Matters went on thus for a while, when Korus suddenly shoved the American back.

"You are crazy!" he shouted.

All Right reddened. "What did you say, fellow?" he cried.

Korus evidently was becoming enraged. "Take that back, you scamp!" he screamed. "You are to blame for the whole trouble!"

"Look out, little fellow, you can't call me a scamp!"

"For Heaven's sake," yelled Egon, "give me a chance to rest!"

Both the others turned to him. "Now you are starting things!" they shouted. "You have no buisness to talk to us."

"It is my rocket."

"Nonsense, it belongs to Mr. Allister."

"Be so good as to shut up!"

They all yelled wildly at the same time. Korus and the American rolled on the floor and wrestled together. The more uproar they made, the more common and vulgar their expressions became, like those of guttersnipes. Apparently all three had forgotten that they were educated men.

Suddenly Egon, who still had the most self-possession, saw the little lump of ice on the floor. It had become very much smaller. He roared at the others, "The devil, won't you keep still?"

Trembling in all his limbs, purple with rage, he took the bit of ice and threw it out the door into the air-lock. Then he worked a lever. After a while their voices suddenly became quiet. The two fighters were squatting on the floor, with their clothes almost torn from their bodies. They were covered with sweat. They gazed stupidly at each other until Korus finally said, "What happened?"

Egon sank smiling on the bench. "Forget all about it," he said, "I am to blame for it."

"How so?"

"Explain."

"We simply had an oxygen frenzy."

"An oxygen frenzy?"

"I told you that we had found pure oxygen. I left the frozen lump lying here and went to sleep. The electric warmth of the cabin and the heat of our bodies slowly changed the frozen oxygen to gas. Of course this gas was distributed about in the cabin, and the air, which was already beginning to be poor in oxygen, became far too rich in it. Excessive amount of this vital gas cause violent excitement. Mr. All Right dreamed of something funny, woke laughing, and so made us join in. That caused our extreme merriment. But then the excitement increased and we became irritated. As is always the case when people lose their self-control, we scolded and beat one another like street-urchins. It is a good thing that I had enough intelligence to notice the lessening of the lump of oxygen and to throw it out."

Let's Not Despair

WITH eyes full of astonishment Korus answered, "Probably we would have killed one another."

"Maybe, but it would not have needed that to finish us. An excess of oxygen would finally lead to stupefaction and to a death by suffocation, just like too little oxygen."

They laughed again, but this time it was with pleasure. They shook hands all around.

"The air is fine now."

"The apparatus now has the right mixture and is working as it is supposed to."

The American sat down on the sofa. "It is strange," he remarked, "that I no longer feel tired."

"We have had a sort of ozone bath."

Korus smoothed his hair. "Let's not bother about sleeping," said he. "Come on, doctor, give us a good cup of coffee."

"Unfortunately we must start to economize with our heat. One of the two storage batteries is almost exhausted. We have certainly been too free with its use."

"What difference," said Korus with a laugh, "if we are now saved?"

"For the present we have only a reprieve."

"What does that mean?"

"It is the same as with the man who went out to look for an egg and found a roast pike."

"You must put that more clearly."

"Well, then, we absolutely need hydrogen and oxygen, to have the possibility of returning to the earth. Hydrogen I hoped to find, and Heaven has given us pure oxygen. Gentlemen, it is a priceless gift. Tomorrow a new trip would have used up the last three cylinders, and in a few days more the air in the cabin would also have been used up, since the apparatus was no longer working, for want of oxygen."

"Then we are saved, after all."

"Yes, for the time being. At least we can breathe. And if my hope is realized, that all I have in the three knapsacks is pure oxygen, then we are provided for on that score. We can keep filling our cylinders and be sure that we can always replenish our supply in that crater on the other side of the moon."

"Well then, what more do we need?"

"We have discovered one more thing: the possibility that persons in heat-proof habitations can live on the moon on the supplies of frozen oxygen."

"But can't we leave?"

"No, our rocket engines work with detonating gas, that is, with the explosive mixture of hydrogen and oxygen. If we do not find the former, then we must remain here."

Korus replied carelessly, "Then we shall make a colony on the moon."

Egon said rather bitterly, "Yes, for as long as our provisions hold out. According to the rations thus far used, that will be for two or three weeks at most."

Korus shrugged his shoulders. "Yesterday we had three days left," said he. "To-day we have three weeks. I think we have no reason to despair. Gentlemen, let us not allow the good coffee to get cold."

CHAPTER VII.

Night and New Despair

THE lunar night had commenced. At last it had suddenly started. One day, when they awoke, the last light of the sun had disappeared. All three, fully equipped, were standing in the outer door of the air-lock, very much surprised. It was not dark; on the contrary, in the last few days, when the sun had a more and more oblique position in the sky and mighty shadows of the mountains stretched out everywhere, it had been darker. Now the shadows had vanished along with the sun. The earth was in the sky with its dully luminous disk, yellowish and cold, much as the moon is to us. Now that the sun had disappeared with its stronger light, they could recognize all the more plainly the outlines of the contents on the earth.

Suddenly the American gave a sob. The others did not hear it, for he had his oxygen helmet on his head, and here in the open there were no waves to carry sound. But they saw by his convulsive movements that something strange was happening to him. Then he turned and went again into the cabin, although Egon had forbidden them to use the air-lock any oftener than was absolutely needful.

At first the other two did not notice much. To be sure, they saw very plainly with the naked eye that the American continent stood out on the earth, but their eyes were much more occupied with what the moon had to offer them.

It was actually ridiculous to talk of warmth on the moon, which lay at all times in the field of spatial cold, yet it now seemed to them as though it must be colder.

The warm tones of the sunlight, which had after all brought a little variety into this horrible landscape, making the ice-fields shine, the points and depressions glow, and the lowlands sink into gloomy shadow, had vanished.

All about lay the yellowish light of the earth, over all this monotony, over these almost uniformly round walls of the craters, out of whose midsts still smaller craters rose. The absolute deadness, the impression of desolation, was now far more strongly expressed. The hopelessness of this region was complete. This region which millions of years before had surely been the scene of the wildest tumult. One could picture the first volcanoes bursting out from the rigid mass pouring forth their contents of liquid fire. Within the lava fields still smaller volcanic tubes had swelled up like bubbles until everything froze in the infinite cold and in this freezing the shell burst, until it looked like what now met the eyes of the travellers in the harsh, uniform and melancholy light of the earth. It was a dead heavenly body which had never possessed life. It had passed from fiery heat to the rigidity of death without ever forming, as the earth did, a layer of soil which, fanned by a mild air and moistened by water, became a comfortable home for man and beast and plant.

It was dead, barren, cold, and horrible for the living beings who had been brought here. Korus stood perfectly still. Egon felt a child in his heart, as though this lunar night were weighing down on him.

He thought again of the American. While Korus now leaped from the rocket down to the moon, picked up bits of ice, and threw them into the air, probably only to divert himself, Egon went back into the cabin.

The American had taken off his oxygen helmet and was sitting on the bench, his hands before his face, weeping.

"What is it, Mr. All Right?"

The latter started and stared at him. Forcing a twisted smile, he said, "O nothing."

Egon put his hand on his shoulder and said, "We have become friends, after all."

Suddenly the American threw his arms around him. This very man, who was always brief in speech, who always seemed a bit distant toward the two Germans, gave vent to the sudden outburst of a deep feeling: "I have seen my home!"

Egon understood, the American needed to say no more. But he also recognized at once the danger of what was going on. He himself knew how a few moments before, outside, he had been held by such thoughts.

"Stop, sir, we must keep our heads. We must return, and we shall return."

The American laughed loudly, saying, "You do not believe it yourself."

"You are ungrateful. Kind Heaven has given us the oxygen, and we shall also find the hydrogen."

The bitter look on the American's face did not vanish. "If we do find it," said he, "the rocket is damaged. The apparatus was broken at the start, and we are lost. You know that as well as I do. It is best for us to end matters."

"But, All Right!"

The American bent close to his ear, for Egon also had taken off his helmet.

He whispered very softly, "What do you say to this? We won't say anything to Korus. We will have a good dinner and drink champagne. Much champagne, all we have. Then you and I—harmless little Korus need not know anything about it—will fetch in the big lumps of oxygen and start

the electric heat. The champagne will make us merry, and so will the oxygen at first. Then we will go to sleep and suffocate and awake no more. All will be over."

"We cannot do that," cried Egon.

Then All Right took him by the shoulders, with his face close to Egon's, and gazed at him. With horror Egon saw that his eyes had taken on a strange, unsteady, wild appearance.

The American muttered to him, "Do you want to wait until we are all insane? I am becoming so already. This morning I plainly feel that I am becoming crazy."

Egon comprehended the danger of this moment and said very firmly and convincingly, while he looked fixedly at him, "Get rid of such thoughts. I have been studying the map and the books about the moon, and I think I know very well where we shall find hydrogen. Take your helmet and come along. We have no time to lose."

At these loud, energetic, commanding words the American shrank together for an instant. Then he rubbed his hand over his forehead, and at once there returned to his eyes a happy light.

"Do you know where there is hydrogen?"

"Yes."

It was evident to Egon that at any rate he had to speak definitely and assuredly.

All Right became actually joyous. "Then let us be quick," said he. "Of course I am ready."

Before putting on his helmet he took Egon again by the shoulder. "Don't say anything about it to Korus," he said. "It is my nerves. It is the result of what happened to me in an explosion, and I should not like to have him laugh at me."

"My word of honor on that."

Now the attack seemed over, and the American was again his former self. He seemed to have forgotten everything, but Egon still felt the terror in his heart.

At this moment Korus put his head through the door, asking, "Aren't you coming at last?"

"We are coming. Mr. All Right's helmet wasn't working properly."

"I Believe We Have Found Hydrogen"

THEY went over the ice, this time toward the south. Again they came to high mountains with steep peaks and abysses. Though the pioneers did jump up easily, those mountains were so traversed by rifts and chasms that on the earth they could hardly have been climbed at all.

Sometimes it happened that one of them slipped and fell forty or fifty meters. They had long given up tying themselves together, since they had seen that even such a fall was not serious on the moon, because the one falling floated down gently and landed with a barely perceptible shock.

They had travelled for four hours and were now standing on an elevation. Here a crater landscape, extraordinarily wild in itself, was cut by deep deep rifts and fissures. Egon wrote on his tablet "The Alpine Valley," which was the name he had found on the map.

The sight of this wild scenery of craters and ever more craters, of round walls forming wide circles, with countless tiny craters strewed about within them, this ever similar horrible picture, would have depressed their minds far more than the first sight of the lunar night that morning, if the trip they had just taken, the good exercise of this everlasting climbing over the mountain-tops, had not refreshed them and given them unconsciously a joyous feeling of victory. Such leaping over abysses and climbing almost inaccessible mountains gave them the consciousness of a superhuman power. Supermen are not extremely ready to give in. Close before them was a very steep descent into an extraordinarily deep place, and Egon used the telescope.

"It seems to me that there is grey frozen snow down there."

The American read the tablet, took a look down through the telescope, and began to slide down the steep slope before the others could prevent him.

It made them dizzy to see All Right descend like lightning for hundreds of meters on the mirror-like surface. Then he jumped and beckoned to them from a ledge.

Egon and Korus followed. It was only when they stood below that they saw the danger in which they were. The ledge which they had thought from above to be the bottom of the crater was only very narrow. From there it went down, extremely steeply, in a manner impassible even with lunar conditions, into a black abyss so deep that they could not see the bottom in the dull light of the earth. But before them, on the little ledge, there actually lay a grey mass which was no regular ice but rather frozen snow.

This time they had not brought along the large ax. They had only one now, because Egon had left the other in the oxygen fields. But they had little hatchets, with which they broke off a chunk of frozen snow and divided it up for their knapsacks.

Again Egon wrote on the tablet: "We need not take too much; it is not a long trip to this place."

The ascent was very painful. They had simply slid down, and now they had to cut every step of the way with the hatchets. It took hours for them to reach the top, but then they returned with rapid strides to the rocket.

The American was again quite his old self and seemed to have forgotten his fit of depression. When Egon now broke off some fragments from the lump of snow to test in the cabin, the other two remained outside and amused themselves by using their alpenstocks as javelins and throwing them great distances.

Egon was content that they should remain outside and entered the cabin. When he switched on the electric light, he felt for the first time how dark it had been outside. He again heated a needle red-hot and stuck it into the snow. It went out again at once, but there was likewise no formation of a drop of water about the glowing needle. It was therefore neither ordinary ice nor oxygen.

In his joy Egon went to the air-lock and called out, "I believe we have found hydrogen."

An Explosion

THEN he went back into the cabin, where he had placed the lump of snow on the hot electric stove, and looked for the spectroscope.

Korus and the American had been rather far off, looking for their "javelins," and they had of course not heard Egon's call. They had however seen him up in the air-lock of the rocket and had supposed he was beckoning to them.

They went slowly over to the rocket, where Korus was the first to enter the cabin. He gave a loud cry and beckoned to the American. The doctor, who had of course taken off his helmet during his investigations, lay stretched full length on the floor, apparently dead.

"Don't take off your helmet—poisonous gas here—you can't breathe hydrogen—get the oxygen, quick!"

After they had made their discovery of oxygen, they had filled their cylinders. Now Korus opened one and held the open valve close to the mouth of the apparently dead man, so that the pure oxygen flowed into Egon's lungs. The American wanted to help and had the feeling that Korus could not see well. He felt for his flashlight but instead found in the pocket of his leather suit a box of matches. Thoughtlessly he struck one.

Instantly there was an explosion. Egon and the American were hurled through the door, which had not been entirely closed, into the air-lock. At the same time the great glass window broke and the fragments flew outward. Then it was all over.

Egon, still completely stupefied, sat up on the floor. The American was leaning weakly against one of the walls. But Korus, who had been given careful instructions by Egon as to the rocket and other scientific matters, had presence of mind. Quickly he seized a lever and made the metal plates fall in front of the broken window. He carefully closed the outer door, turned on the electric heater, and likewise shut off the oxygen cylinder, which during the last few minutes had been pouring its contents out into the cabin.

All this had taken place with incredible rapidity. The air was again fit to breathe, and the chill of space had not entered the cabin during these few moments to such an extent that the heater could not warm it up quickly.

Only now were the three able to recover from their fright. But the American, who had indeed removed his helmet like the others, sat again on the bench with staring eyes.

Egon had risen, feeling a painful headache but able to think clearly again. He pressed Korus's hand, while the latter inquired, "What actually happened? I found you lifeless on the floor."

Egon reflected. "I had put the ice on the warm plate," said he. "It was not hydrogen, at least not pure hydrogen. It was chiefly frozen carbon dioxide. When I became aware of that, I wanted to hurry out, but it was no longer possible. If you had come a moment later, if you had not blown oxygen into my mouth at once, I should have suffocated."

"But the explosion?"

"Quite correct. There must have been hydrogen, after all. Probably both were hurled up from the crater in unthinkably early times, freezing at once to crystals and both being united in the frozen masses. There must have been hydrogen in the cabin which united with the oxygen flowing from the cylinder to make detonating gas. But where did the spark come from which ignited it?"

"Al Right struck a match."

Egon felt all right again. "In here," he said, "little harm was done. It is a mercy that the door was open and that the window pane gave way so easily. Everything seems to be tight and sound, for the rocket still keeps in the heat. The explosion was not very violent and simply exerted its force out through door and window. At any rate, the incredible hardness and strength of the beryllium covering has stood another test brilliantly."

They looked about in the cabin. The only damage done was to trifling things.

"Now we will eat, and after that we will put on our helmets and examine the entire rocket on the outside, to see whether we discover any damage."

While opening a meat tin, Korus said, "Then have we found hydrogen?"

"Then can we go away?" asked All Right.

The doctor shook his head. "This snow we cannot use. It is evidently too full of carbon dioxide. We could not convert it into a gas without continually running the risk of being suffocated. You are right, there is hydrogen here, and therefore it will surely be present in a better form. But we must seek further."

A Madman's Act

THEY ate, Korus and Helmstätter with a good appetite, while the American stared before him and shoved the morsels into his mouth purely mechanically.

The German reporter laughed aloud. "What are you doing, All Right?" he said. "You are eating with your fingers instead of with your fork."

The American made up a foolish face and became embarrassed, while Egon passed the matter off.

After eating they put on their helmets and went out. Though All Right now seemed to have become rational again, the doctor cautiously gave a hint to Korus.

"I do not know what is the matter with him, but he seems to me to be suffering from a nervous collapse. If you notice anything, do not pay any attention to it but just pass it off."

Of course this conversation had to be written on the tablet, like any other. Now they examined the rocket, but it did not appear to have suffered any injury. Indeed, at the window the artificial skin was not destroyed but showed cracks and breaks.

Meanwhile it had become evening. Of course everything was the same at all times, but they had retained the earthly habit, after being twelve hours awake, of calling it evening. When it was ten in the evening by terrestrial time, they said "It is night" and went to bed. In reality there

were still fourteen days of the eternal lunar night.

Of course it was pitch dark in the cabin, after the three had stretched out as usual on the floor and put out the electric light. There had been a large window only on one side, which now was destroyed. On the other there was nothing but a round porthole, through which the dull light of the earth cast only a very feeble glimmer.

The American was as taciturn as usual, but he seemed perfectly normal.

"How are you, Mr. All Right?"

"Thank you, I am tired and would like to sleep."

After some hours Egon was wakened by a noise. He perceived in the faint light that the American was standing up, with his helmet on, and was now leaving very softly on his toes. He awakened Korus.

"What is it?"

"We must watch All Right. He has gone out."

The young German was still sleepy. "Don't let him disturb us," he said. "We are tired."

"I am afraid that his reason is affected."

Korus became wide awake. All had long since been accustomed to keep on the artificial skin at all times. Then they needed only to put on their helmets and their heavy boots, the latter being worn to protect the artificial skin and to preserve their balance.

"Quiet."

"What is it?"

"He is coming back again."

All Right came in again, carrying a great chunk of ice in his hand. This he placed on the electric plate, switched on the current, and was going to lie down again. The eyes of the two men, now accustomed to the darkness, had seen all this.

Now Egon sprang up, switched on the light, seized the chunk, ran to the door, and threw it out.

"All Right, what are you doing? That is the miserable carbon dioxide!"

The American replied with a snarl, "Of course you had to wake up."

Korus stepped up to him. "Man, do you want to murder us?"

"I want to finish matters."

For a moment the three faced one another speechless. They did not even think of taking off their helmets. Two stood in horror at the thought of having with them a madman or at least a man desperate to the point of suicide; the American stood with bowed head, his fingers twitching convulsively. The narrow cabin and the strange tone of their speech through the diaphragms increased the horror of this moment.

Suddenly All Right made a move and leaped out the door, which he, strange to say, carefully closed behind him.

"He has lost his mind."

"You saw it before when we were eating."

"He wanted to kill us all."

"And at the same time he has just this fixed idea about the carbon dioxide. He made such a proposition to me earlier."

"He only needed to open the metal protection of the window! Since we did not have our helmets on then, we would immediately have frozen to death."

"We must follow him."

Korus hesitated. "It is better for him to die than for us to die with him."

"He is a human being, and we cannot let him perish."

"You are right."

The two stepped out. Not very far from them the American was sitting on the ground and staring at the earth. He was dressed only in the artificial skin, which protected him from the cold, and the oxygen helmet.

Egon slowly walked up to him. But when All Right saw him close at hand, he jumped up with gestures of terror and fled away.

Then he knelt down and they saw him holding the matchbox in his hand. Apparently he thought he was in the cabin, for he scratched one match after another, which of course went out immediately.

"He wants to blow us up."

Korus forgot that Egon could not hear him. Yet they understood each other, separated, and tried to catch the American from two sides.

The latter jumped up and to their surprise commenced a rapid fire with pieces of ice, which he threw at them with giant strength. Then he stood up to his full height, raised his arms in the air, took a couple of mad leaps, and began to run. He ran straight ahead in great bounds, with the other two after him.

The chase lasted for hours. Korus and Egon were bathed in sweat under their artificial skin. They were exhausted, for they had covered distances which would have taken days on the earth. Still it went on just the same, and the madman seemed tireless.

There was another mountain and another abyss. All Right vanished from sight.

Egon pointed: "Down there."

The fact that the two could not even talk together increased the horror of this fearful night. Below lay the American, apparently dead. When they painfully managed to climb down to him, he struck out and struggled, but he could not stand up.

"We must tie him."

Egon had the lasso with him. They bound his arms and slowly carried him back to the top.

Here Egon took the tablet and wrote, "Where are we?"

Korus shrugged his shoulders, as though to say, "If you don't know, I'm sure I don't."

In the pursuit they had completely forgotten to notice where they were going. There was no trail: how could a human foot make any prints on the ice of the lunar night? They wandered about, dragging the now perfectly insensible All Right. They laid him down, climbed peaks and domes, came down again, and wandered further. Always the scene was the same, monotonously uniform.

At last Egon pointed with his hand. He had recognized a peak. He climbed up it and waved his arms. His keen eyes had seen the rocket through the gloom.

CHAPTER VIII.

Days of Gloom

AFTER two hours they reached the rocket again. They carried the American in and took off his helmet. He lay motionless, and his face was ashy grey.

"He is dead."

Egon put his ear to his heart. "He is still alive." Korus examined the helmet. "The oxygen was exhausted," he said. "He was at the point of suffocation."

(*Illustrated by Paul*)

High in space a solitary person was floating—separated from everything.

All Right opened his eyes and began to utter groans as if in fearful pain. "My foot!" he moaned.

Now for the first time the two saw that on the right foot of the American the artificial skin was torn. A black frostbite was visible through the rip, which fortunately was narrow. They undressed him and in the process observed that the entire artificial skin had become rotten and was tearing under their hands. It certainly could not be used any more.

All Right moaned in pain. Egon got out the medical chest and gave him an injection of morphine. He went to sleep.

"It would perhaps be better if he were dead."

"We must do everything to save his life."

"He is mad and will keep trying to kill us."

Egon was insistent. "Then we will tie him, but we must save him, if we are able to save ourselves."

Korus examined the foot and said, "The whole foot has already become gangrenous."

"Then it will have to be removed."

Before going into journalism Korus had studied medicine and served as assistant in a hospital. They did whatever was at all possible. They cut the destroyed tissue and bandaged the foot. Then they themselves sank down exhausted and slept for many hours. When they finally awoke, the American was lying with his eyes open, softly moaning to himself.

"How are you, All Right?"

"I have a great pain in my foot. What has happened to me?"

"You fell and tore the artificial skin."

"Must I die?"

"Certainly not; friend Korus is half a doctor, you know."

"What about the hydrogen?"

"I know where to find some." Egon thought it well to keep him calm.

"And then do we go home?"

"Of course."

"And I cannot help you! We must start at once. I should not like to lose my foot. And Dr. Hastings in Frisco—"

"Korus and I are going for hydrogen today."

The American had no fever and spoke perfectly rationally once more. It seemed as though the pain of his wound had collected his thoughts again. He ate and drank with them. Then Egon arose.

"I must go on the search alone," he said. "You must take care of him."

He put on his helmet and went out the door. Again there was the same dreadful landscape. He reflected. Where should he look now? Surely there was hydrogen on the moon, but where?

He travelled in another direction. He went for hours, this time all alone. Ice, everywhere ice. It was such solid ice that even where it seemed to be frozen snow it was hard enough to chip the edge of his hatchet when he tried to break off a piece.

He seated himself and reflected. Yes, that was natural. Even if the sun had not been completely able to melt the lunar ice, yet in the incessant heat of the two-weeks lunar "day" it had become brittle, while now the cold made it freeze fast again. He thought matters over. It was useless to seek further. He had chipped his hatchet in some places where there certainly was snow. They would simply have to wait until the lunar night was over, twelve days more.

This was a frightful thought. The cabin had no window now, and they had to be very sparing of the light. The storage battery would under no circumstances work for twelve days, and they needed electric power and warmth for the start.

In the cabin was the invalid with a perhaps fatal injury to his foot. There was also the possibility that at any moment madness and suicidal mania would seize him again.

While Egon sat here all alone and reflected, he did not break down. On the contrary, a firm determined look came to his face. He ran over it all again. He had found oxygen and hydrogen, though the latter was in an impure state. But after he had found it at all, it must surely occur unmixed.

He arose and walked homeward. It did not matter. They just had to wait until the sun came back and made the snow brittle again. They had food and drink.

He travelled for several hours. According to his opinion he should long before have seen the rocket, but however often he crept up on the summits, he still saw only the uniform craters, big and little, and no sign of the rocket. Gradually terror took possession of his body. A cold sweat broke out all over him.

He jumped along in great bounds. He ascended a high mountain, hurrying so that his pulse beat faster in spite of the lessened exertion, and looked about. Craters, mountains, all bathed in the yellowish light of the earth, but not a sign of the rocket. Now he fully realized that he had lost his way. He was wandering alone on the vast moon, and at the same time complete exhaustion came over him.

Korus Sees Visions

KORUS was sitting in the rocket, while the American was lying on the floor. A violent fever had set in and was making the invalid quiver. Now he moaned in pain, now he trembled with cold, and then again he imagined all sorts of nonsense.

Korus was young, only twenty-five, a gay and joyous fellow who had hardly thought of the serious side of life. Now he began to get anxious.

He looked at his watch. Egon was to have returned in five hours, and six had passed. It might take him longer. He might perhaps have found hydrogen and be coming heavily laden. Korus forced himself to be calm and tended the invalid.

Eight hours!

The American had fallen into a troubled sleep under the influence of the strong dose of quinine which Korus had given him and which had diminished his fever.

The young German could no longer bear to stay in the cabin. He took his oxygen helmet and went out. All was still. Nothing could be seen but the yellow light of the earth bathing the great dead field of ruins of the moon. He climbed the nearest peak, leaping up for a whole hour and continually looking around. He took the telescope, which had lenses adapted to nocturnal use, and looked about in the land. Nothing!

Ten hours had passed!

One idea kept making him shudder. The doctor had had an accident! He was somewhere helpless! He would not return again! And here was he, alone with the invalid, helpless and alone. Even if he had everything, even if the American got well, they could not even tell what hydrogen and oxygen were, they did not know how to fill the rocket motor or to control it. He felt cold in spite of the artificial skin, but it was a chill from within that made him shudder.

Again he looked about. Emptiness!

But yonder, there was a shadow, something was coming. No, it was nothing!

And now his overtaxed nerves thought they saw figures everywhere. Men who approached him and looked like Egon and then suddenly turned to mist before his eyes. They crept up out of the depths, monstrous forms, with spongy limbs and huge heads. They came from all sides. Although he knew he could hear nothing, he heard voices, the mocking laughter of these ghosts. His horror increased. In the depths of a crater he saw a light—a light that had not been there before. Now it became larger and larger. He stood up, feeling his knees tremble.

Great pieces of the surface were thrust aside down below. They must have been metal sliding doors. He plainly heard the rolling and rattling of great machines.

Involuntarily he went toward the light. Now he saw figures down below. Little figures with

gigantic heads, climbing stairs which led up from vast subterranean rooms.

Living beings! They came toward him, almost fungus-like hands touched his, soft squeaky voices, which he strangely understood, bade him come along. They led him below and removed the diving helmet from his shoulders.

He was able to breathe. He walked down the stairs, following them with a beating heart. He felt that it was not in his power to refuse obedience to these things. He went through a mighty room in which tremendous machines, the gigantic forms of which he had never seen before, revolved their wheels and raised their iron arms. Then he was in a vast hall, brilliant with gold and jewels. It seemed to be the hall of a subterranean palace. At table sat a great number of persons, eating. They were dressed in soft flowing robes of various colors. All of them had huge heads and snake-like limbs.

Moon people! His heart beat more anxiously. Moon people! Frightful monsters. And on a platform sat an apparently very old man with the hugest head of all. All this struck him as horrible, yet as not at all unexpected. Now two leaders came out of the crowd and stepped up to Korus.

The entire hall was lighted by a bluish light, but the creatures were at the same time veiled in a grey mist. These creatures had long thin worm-like arms and legs as well as incredibly large heads. The man in the lofty throne seat, however, had still more attenuated limbs but an actually colossal sphere for a head, out of which two piercing little eyes looked forth. And these eyes, which gave the impression of a mighty brain, looked questioningly at him, while at the same time strains of supernaturally beautiful music came to his ears. The man up there began to speak in a soft piping voice, and then suddenly the mist vanished and everything became perfectly clear. With horror Korus saw whole hordes of such lunar beings come in, carrying the rocket on their shoulders. Then he felt himself seized by slimy hands and bound with chains.

Korus gave a loud cry. The American lay stretched out dead on a bier. Beside him stood Egon, bound as he himself was. The squeaky voices were talking louder and louder, and all the figures in the hall were taking on threatening looks.

A Terrible Predicament

EGON started, felt the ground giving way under him, slid down, and stopped somewhere.

He looked about and could have shouted for joy. Now he knew where he was. He recognized the spot, the ledge projecting out in the deep crater, where he had found the carbon dioxide snow two days before.

He climbed up the mountain again. From this point he knew the way to the rocket.

Korus was still in the frightful hall. The horrible lunar figures were swaying about him like ghosts. The long arm of a machine was descending upon him. He knew that in the next instant this machine must crush him. He felt its iron clutch strike heavily on his shoulder, and he fell down.

At this one blow everything had vanished, the whole hall with the moon people had sunk into nothingness, and about him was the bare yellowish lunar landscape, bathed in the light of the earth.

Before him stood Egon, with his hand on his shoulder. He was now pulling him along. An hour passed, during which Korus staggered along on Egon's arm as though stupefied, and then they stood before the rocket. Before the rocket, which was floating right over the surface of the moon, just as he had left it.

They entered the cabin. The American was lying in a peaceful sleep. They took off their helmets. Egon laughed at observing that Korus still had an absent look in his eyes.

"You are a frivolous fellow, Korus. I found you fast asleep on the last mountain peak."

The young man stared at him. "Was I asleep?"

"Fast asleep."

"And what about the men in the moon in the underground hall that I saw?"

In a few words Korus related what he had seen.

"Have you ever read Wells's book about the men in the moon?"

"Of course."

"Then you simply dreamed what the novelist told you."

The doctor became very serious. "We have both of us again had a piece of good fortune. I lost my way in the night, while you fell asleep from exhaustion and had a dream. Think what you may, I believe that fate has good intentions toward us, else we should never have seen each other again. And how is the invalid?"

"He seems to be sleeping peacefully. Evidently the fever has lessened."

They sat down and ate. Egon was contented and at the same time rather ashamed.

"Have you found anything?"

"We must wait until the lunar day returns. Korus, I have a feeling that we two must also take care of our nerves."

They sat there in silence.

The time for sleep arrived. The American still slept calmly. At any rate, his wound did not seem to have become worse. The night, that is the sleeping time of the men, passed undisturbed without having bound All Right again.

The next day was, as fortune would have it, the fourth since the sun had disappeared. All Right was awake.

"Have you some hydrogen?"

"I cannot carry it alone, the load is too heavy. Korus has to take care of you."

The American shook his head. "I feel better. I can perfectly well remain alone for some hours. I beg of you, if you know where there is hydrogen, go and get it. We must not lose a moment. We must do everything possible to leave this fearful place. I had a horrible dream. I thought I was insane; I saw myself get up secretly in the night and carry the block of frozen carbon dioxide into

the cabin and destroy us all. Go, get the hydrogen, and save us."

"We will get it."

Disaster and New Hope

HE beckoned Korus to follow him, took his helmet, and went out. He had to be alone and think. The American felt better and had overcome his fit of nerves. At this moment what he had actually done seemed to him a dream. He was calm because he for the moment believed he would be saved. What was to be done? Should he actually make an attempt with Korus, which would surely be just as fruitless as those before? Should he tell the American the truth and thereby run the risk of seeing him collapse again. Even if he risked a new attempt, did he dare to leave All Right alone? Was it not to be feared that just the absolute solitude would again completely upset him? Was there not the possibility that if new mad ideas came to him, he might destroy the whole rocket?

He could find no solution. He also felt that young Korus could give him no advice and that the entire responsibility rested on him. He had jumped along a few strides and was standing on one of the smallest craters. Meanwhile Korus, who had bandaged the American's wound, had appeared up at the exit of the air-lock.

Egon saw him and beckoned to him. But then he was seized by a sudden horror. He thought that he too was being frightened by ghosts. He saw something that could not be happening. The rocket was beginning to vibrate, beginning to oscillate very distinctly, as if moved by a violent current of air, and here in the moon there were no currents of air.

Still more, he himself swayed, plunged to the ground, lay on his knees, and suddenly there was life about him. On the dead rigid moon there was motion! The whole region began to get this uncanny life. The crater walls wavered, the ground opened up. As though by a magic hand there was dug a very deep rift, a valley. Little pieces of ice were whirled up and sank down again, while with lightning speed a deep ditch or valley opened and the ground split open as though cut by a knife.

All this took only a few seconds. It was a phenomenon which he would have called an earthquake, if it had not happened on the moon. A moonquake! He looked up at Korus and saw him fall, faster than usual, headfirst into the depths of the newly formed abyss. At the bottom he lay motionless.

Egon leaped down, forgetting that at any moment the pit might open up more deeply, that perhaps—for what did he know about the inner fires of the moon?—a volcano might start an eruption!

All remained quiet. Korus lay motionless with his helmet crushed by a great block of ice which a person could not have moved on the earth. Egon was seized by the most terrible anxiety. He rolled off the ice, picked up Korus, whom he was fearful of losing, and carried him into the cabin of the rocket. The ship was now perfectly motionless.

"Are we starting already?" cried the American.

He did not reply but took off the helmet. Korus was uninjured, except for a few bruises. But when he undressed him, he saw that not only the second helmet but also the artificial skin had suffered. It was not torn but cracked and no longer suitable for use.

"What happened?"

Egon had understood all this. "Nothing but the fact that the cold of the lunar night burst the coating of ice, which had become brittle in the sun. Another new discovery. This explains the channels in the moon that suddenly form."

He could not remain in the cabin. He stood in the opening of the air-lock, not venturing to descend, lest he fall victim to a second quake, especially since no one could now rescue him, because the other two suits were destroyed.

All remained quiet. The rocket, which was moved by the quake only by the pull on the anchor rope, was now motionless. Meteors were flying across the sky as frequently as often happens on the earth in certain months. A glowing spark rushed down, and Egon involuntarily ducked. Very close to him a tiny meteor struck the moon and burst into glowing sparks. Single ones flew close by him and fell into the fragments of frozen oxygen. They burned with a bright flame.

Then—his breath stopped. A spark had penetrated a block of snow which he had also fetched from yonder, from the other side, and did not burn but went out.

Egon jumped down. The shock had split the piece of snow. He took a little bit and ran to the cabin. Without answering any questions, he got the spectroscope, switched on all the lights, looked through it, and shouted: "Hydrogen! We have hydrogen!"

They did not understand him. They looked at him in the belief that his mind was affected, but the miracle had come to pass. During these past days he had vainly wandered about the moon. And the hydrogen was right here! He had found it the first day. He had not investigated all the chunks. He had assumed that they all contained oxygen. Probably he would never have noticed it. Perhaps he would have suffocated them all, if he had brought the blocks of ice into the cabin. Even if only this one block was hydrogen, it was ample for their needs.

He explained matters in a few words. There was a celebration in the cabin. Korus fetched out a bottle of champagne, and the American looked on with bright eyes.

"We have hydrogen! We have everything! We must just wait until the lunar night is over. Then we will repair the rocket, using the rest of the artificial skin from the useless garments to strengthen the outside of the rocket. Be patient, for as soon as day comes, we shall be off."

The moonquake and the meteor fall had saved them. Rather, it had not saved them but given them a possibility of safety. The three men sat together in the narrow cabin and saw a ray of returning hope in the depths of the fearful lunar night.

CHAPTER IX.

The Coming of Day

THE twilight of the new lunar day came slowly. When the first oblique rays of the sun illuminated the cheerless expanse, it was like a release from imprisonment to the three men.

The last four days had imposed an incredible strain on their nerves. The American was suffering great pain in his foot, and the mobile Korus could hardly control his impatience at being in the narrow space of the cabin.

During these days they had not left the rocket at all. The second of the two storage batteries was barely half charged, and since two of their three garments of artificial skin had become useless, they had under any circumstances to be sparing of the electricity and simply use it for keeping the cabin warm.

Every time the air-lock was opened, part of the heat was of course lost. The chill of space came in, if only for a few seconds, forcing them to heat up again by electricity.

So they completely gave up leaving the rocket, although freedom of motion would have done them a world of good. They sat in the dark cabin, with the batteries of the two flashlights charged for extreme cases of need, but they did not dare to burn a light.

From their supplies they had selected food which could be eaten cold. They opened the tins in the dark, and they also ate in the dark.

It was not absolutely dark. As in the darkest night on the earth, there was also here a very faint half-light which enabled them to find their way about, once they were used to it.

Nevertheless each day and each night was becoming a torture. If the thought of the hydrogen they had found had not repeatedly supported them, they would have broken down.

They spent almost all day telling one another of the sufferings of north polar explorers in earlier decades, who had had to spend a whole half of the year in the darkness of winter.

But at any rate those men had air to breathe, and they were able to go about. They had the possibility of going hunting and shooting polar bears and walrusses. They could busy themselves and seek some diversion to kill time.

But these three men were sitting idle in a very narrow room with nothing to do but wait. They did not even have a feeble candle-light.

There were times when they silently brooded. When they lay down to sleep, they were wakeful, for they were not tired.

Egon kept saying, "Three days more. Then the sun will return, then we shall fill the tanks and start."

"Of course we shall start."

The other two agreed more loudly than was necessary, yet neither of them actually believed it, nor did Egon himself.

The sun was there. It did not help them. It merely brought the decisive moment nearer, yet the imprisoned men breathed more easily.

Egon dressed himself in the last suit they had of artificial skin. He examined it very carefully and utilized the first light which came to them to glue on great patches made of the other two, wherever the skin of this garment seemed to have become thin. Only one of the helmets was serviceable now.

"Now I will go out and examine the exhausts."

It was not easy. To be able to stand up in the cabin, they had so anchored the rocket that it floated horizontally above the moon.

Egon had to climb out, struggle along to the stern, and try to get into the machinery. Of course this rear room had to be shut off heat-tight from the rest of the rocket, because otherwise the open exhausts would have let the chill of space come in.

Egon cautiously slid along the polished hull of the rocket and arrived at the exhausts. The frightful shock of the premature start had done a great deal of damage. The soldered places between the pumps and the exhausts were broken badly. For hours Egon sat bent over in the tiny space and reflected. Then he unscrewed the broken exhausts and brought them into the cabin.

Anxious eyes awaited him.

"Will it go?"

"It must go."

They thought matters over.

"Soldering is entirely out of the question."

How could they have heated a soldering iron here, since they had no blast-lamp?

Again a little of the precious electric power had to be sacrificed. While the other two were hammering away in the cabin, to repair the piston-rods and exhausts, Egon ran an electric wire around the rocket, pressed ordinary snow around the broken places, warmed it electrically, and let it freeze again. It was a desperate thing to caulk the connections with ice. If it would only hold at the start!

The Last Toast!

THREE more days had passed—three terrestrial days—and still the brilliant sunlight still lay over the moon, unbroken by any night.

The work was done and the rocket again intact, even if the repairing was only very primitive. The great containers were filled with hydrogen and oxygen gas. For this they had had to sacrifice some of their heat, because it was only in a gaseous form that it was possible for them to flow from the exhausts and mix to form detonating gas.

Egon had also stowed great amounts of hydrogen and oxygen snow in solid form in the rear of the rocket. There was certainly the danger that they would warm up, combine, and explode. It did not matter, they had to take a supply along with them.

They sat together in the cabin. Lately they had become accustomed to speak little. Now Egon took one of the champagne bottles and opened it.

"If it is all right in your estimation, we shall start after dinner."

He purposely spoke in as indifferent a tone as though it were a matter of a simple journey.

The American nodded and said, "All right."

"Do you think it will be successful?" asked Korus.

"I do not know myself," replied Egon seriously. "We must settle whether we want to risk it. I have got the apparatus into as good order as I possibly could. It is to be hoped that it will again work properly, but it is equally possible that at the first electric spark the ignition will blow up the whole rocket into a thousand atoms. I cannot judge whether my repairs will hold. I have no possibility of determining to what extent the apparently undamaged pipes have been made brittle by the cold of space. It is therefore easily possible that the pressure of the lever, with which I commence the ignition, will mark the moment of our death."

"Can we remain here?" the American asked with a set face.

"Certainly not."

Korus, who had long since given up his eternal merriment, said in a determined voice: "Here we are dying slowly. It is impossible to find food on the moon, besides which our life would be useless here. Doctor, if you have merely a ray of hope of saving us by making the start, I am ready."

Egon nodded. "If I were alone, I should risk it. There are three of us, and so I must have your agreement."

The other two held out their right hands to him.

"Now we will be men. We will no longer speak of the danger but we will cling to hope. Gentlemen, let us unite in one the three beautiful toasts which the Englishman in a foreign land is accustomed to drink: Our home!"

"Our distant friends!"

"The women we love!"

They raised their glasses, emptied them, and sat a while in deep thought.

Korus arose. "Now let us not be sentimental," said he. "Now we will eat well, the best that we have left, and drink another bottle. It may be the last meal of the condemned, but I believe we shall succeed. I will believe in that."

"Bravo, Korus!"

How different things had become! Formerly the two had been intruders, and now they felt that all were united in close friendship.

They ate and drank. Korus made jokes, and they even laughed! Then the two reporters cleared the table and packed everything away so carefully that it could not be all mixed up on starting. Egon put his helmet on once more.

"Look out now, while I point the rocket upward again."

He stood outside, viewed his work for the last time, and took his final look at the fearfully impressive desolation of the frozen moon. He took one more look at the heap of ice where they had buried the cylinders containing their notes. Out of it projected the alpenstock to which he had fastened the German and American flags.

Stirred by no breath of air, they hung limply. How long would it withstand destruction? He still hesitated. Even this departure was becoming hard for him! Then he pulled at the rope and pointed the rocket toward the earth—the earth, whose brilliant disk was right above him.

At this moment his soul was filled with homesickness as well as with hope. For a moment he collected his thoughts for a short prayer to the Almighty. Then there remained only one last thing to do. With a sharp blow of the ax he cut the frozen anchor-rope. On the earth it would certainly have made a report like a rifle-shot, when the rope which was frozen taut sprang asunder. Here everything was still. The departure was to be as noiseless as the arrival.

The rocket moved slightly; not because of a breeze but because of the displacement of its centre of gravity. Egon held the rest of the rope in his hand, while his feet still remained on the moon. He was the only connection between it and the rocket.

He climbed up the rope and stood in the entrance to the air-lock, taking one more glance around. Then he resolutely entered, closed the air-lock, carefully secured it, and went into the cabin, fastening the door of that, also.

"We have got so far, anyway."

There was still a little to be done, lowering the window protections, stowing away the diving helmet, and regulating the warmth of the cabin once more. They sat together on the floor; in this case, because, when the point was upward, on the back of the padded bench.

"Now in God's name!"

Egon pressed the ignition lever, and all three clasped hands. The clockwork, which would cause the ignition after a few minutes, began to hum. It was the same humming that had so startled the three in New Atlantis, that day that seemed ages past.

Fearful minutes passed in which no one said a word, while each stared ahead with teeth clenched. Then came a jerk, a violent oscillation of the rocket, a frightful swinging back and forth which tossed the three up into the air.

In the next moment they lost their senses, exactly as they had formerly at the start from New Atlantis.

They had thought of everything but one: the fact that the attraction of the moon was only an eighth as much as that of the earth. They had therefore not considered that it would have needed only an eighth as much energy to hurl them upward and that now, if the apparatus did chance to be working properly, they were travelling eight times as fast as they had before.

Streams of fire rushed out of the rocket. One explosion followed another. Bits of metal flew about, falling on the oxygen snow and burning with a bright flame, while a tiny glowing dot disappeared faster than the speed of thought into everlasting space.

CHAPTER X.

The World Forgets

WINTER snow lay over the wild mountains of Yellowstone Park. On Atkinson Peak, almost buried in snow and cut off from the outer world, stood the observatory and the great workshop, forty meters high and put together with iron ribs, where Waldemar Apel lived.

The buildings were warm in spite of the winter, for the clever engineer had made use of one of the hot springs, which cast up their hot spray all around, even in the winter, and had converted it into a natural central heating plant.

There were only a few persons who lived up here. Waldemar Apel, two well-tried mechanics, an old married couple as servants, and Irene Allister.

Four weeks had passed since the catastrophe in New Atlantis had occurred and the rocket had vanished in the ether. The first few days were devoted to constant work. Joe Allister had come after them, to fetch back his only child, but his words were in vain. He had shrugged his shoulders and returned to Frisco.

Waldemar Apel had given his word not to venture a journey with the second rocket during the winter under any circumstances, unless the first rocket itself sent a call for help. This last was impossible. Days had passed, and no observatory in the world had announced anything news at all of the three space voyagers.

The greatest refractor on earth, in the observatory at Chicago, had watched the moon night and day for an entire week. But it had not observed the least thing, and the fact that once a meteor plunged upon the moon from distant space could not have anything to do with the rocket. Yet this was the meteor that showed Egon the oxygen. It was only natural that the tiny rocket, which was not white hot like the meteor, remained unnoticed.

Joe Allister was again in Frisco. It suited him perfectly that his daughter should spend the winter months at Atkinson Peak. He could rely on Apel, and the agreement had been made. Now everybody claimed to have suspected beforehand that the rocket was a piece of folly. Now everybody laughed at old Allister for having thrown a million or more into the moon.

Now they were mocking at the love of the millionaire's daughter for the crazy doctor. It was well that she did not hear it. As for her sacrificing her small property, what difference did that make? She was after all Allister's only heir.

Great lorries had gone to the observatory, shortly before the winter snow covered the roads. A whole army of mechanics had been at work. In the great workshop the second rocket stood ready for departure, resting just like the first on spring supports. Above it the dome of the workshop could at any moment be so moved by pressing on a machine that the rocket could ascend. It completely resembled its twin-sister, only that it was perhaps still more carefully built.

Irene had been a clever and practical assistant. She had soon comprehended the entire mechanism. She understood every lever and every wheel. Here too a large supply of food and drink was loaded in, likewise garments of the artifical skin and oxygen helmets, but more of everything than in the first rocket.

Irene was always liberal. "We must have so much of everything," said she, "that we can give some of them away. We must have the possibility of being en route a long time, seeking them."

At the same time the little padded cabin presented an almost homelike look, for feminine taste had understood how to beautify many things.

From the very first they had worked day and night, with one man always at the radio receiver and another at the telescope, making observations. A week passed. No word came from space. The newspapers were silent, and the earth in the press of the daily happenings was forgetting the rash attempt of the three men. Three fools, or one fool and two frivolous ones who spoiled his work.

There were only a few scientists who lamented the attempt which had failed. The masses shrugged their shoulders, and the world which was living altogether too fast to heed such things forgot them.

A whole week had passed without any happenings.

Apel said to Irene, "Don't you want to return to Frisco?"

She looked at him in terror. "Then do you also believe that all hope is lost?"

"You have a brave heart. What does 'all hope' mean? The rocket did not return to the earth. It would have had to reach the moon, according to my velocity calculations, in five days. Let us assume that the impossible happened, that the pilots were even able to land and to set out again: then another week could go by."

Irene remained the second week and also the third. Then the winter was so far advanced that she had to remain. Even an airplane could not have fetched her away, because up here there was no place to land.

Apel smiled. "Now you will have to stay here all winter with me," he said.

"Now all is lost, is it not?"

"Yes, according to human understanding. We must mourn Egon Helmstätter as a gallant man who sacrificed his life for his work. It would have better if the yacht had reached New Atlantis an hour later. Then none but those at fault would have suffered."

"And what do you intend to do?"

"To wait until spring and risk a new attempt with the second rocket."

"With me?"

"Not without your father's consent."

Irene did not answer but went to her room. In the evening she seemed perfectly calm. From now on, without ever saying anything about the rocket, she was constantly in the observatory as Waldemar Apel's assistant.

An S-O-S!

THE fourth week was over, and a winter storm was blowing about the peaks of Yellowstone Park. There had been a frightful storm, and it howled about Atkinson Peak and shook the buildings. Snow and sleet had poured down, while the whole force of winter beat against the building in which the people lived.

Irene Allister had chosen for her room a tower-chamber right under the dome of the observatory. While Apel sat below at his desk, she stood

at the window and looked out. She saw the clouds sweep by and the lightning flash, and she heard the thunder roll through the mountains with a thousandfold echo.

Gradually the storm passed, but in the east was a vast dark-grey bank of clouds, announcing the coming of more snow. Irene was sunk in thought. She liked to stand at the window and gaze out into the storm. What was this little violence of the terrestrial atmosphere compared with what the travellers to the moon had had to endure in space! She became lost in fantastic and mournful reflections.

Then she looked out again, and her eyes took on an amazed and staring look. The great bank of clouds had vanished. It was a clear sky now, but up in this sky was something written. It was in great black letters: S-O-S! It was as though written by a ghostly hand in the heavens.

Irene thought she was dreaming. She pressed her hands to her head and closed her eyes. When she opened them again, she saw S-O-S once more.

Irene raced down the stairs and burst into Apel's room. "For Heaven's sake, come quickly!" she cried.

"What has happened?"

"Either I have become crazy, or else a frightful catastrophe—"

Apel jumped up. She seized his hand and drew him along up the stairs to her room. She pushed him to the window.

"Don't you see something?"

Both stood a moment as though turned to stone. Cold sweat ran over them. Apel started back and cried, "There are letters up in the sky."

"S-O-S."

"Human beings in trouble."

Irene seized him by the shoulders. "Signals from the rocket!" she cried.

"Let me think a moment."

She cried out almost exultantly, "Signals from the rocket!"

The telephone rang loudly. Apel seized the receiver. This was the message he received: "This is Allister. Something incredible is being seen here. Gigantic signals in the sky, the letters S-O-S. Can it be the rocket?"

"Perhaps," replied Apel.

The conversation broke off. Apel sat at the desk. Because Irene lived here and because this room was close to the observatory, they had the telephone here.

"I must think a minute!"

Irene was still at the window. The signal remained the same, always the same letters: S-O-S.

Again the telephone rang. "This is the Chicago Observatory. Reports are coming in from all over the world, from Berlin, Paris, Moscow, and Yokohama. In the last hour a strange phenomenon has been seen everywhere. There are great letters in the sky: S-O-S. Can it be the rocket?"

Irene stood in the middle of the room, with her hands pressed to her heart. She listened to Apel repeating what he heard and listened to his replies.

"Can't you see anything in the sky?"

"It is still too dark."

"For Heaven's sake, get an exact observation and report to me."

Now he ran back and forth in the room. "It is the rocket! There is no doubt it is the rocket. Who else could give such signals?"

Irene sobbed, "It is in danger!"

"But where is it? How is it possible that it can give the signals to all parts of the earth at the same time?"

Irene rushed to the telescope. "I cannot see anything," she said. "My eyes are blinded with tears."

"The sky is all full of clouds now. We must wait."

She wrung her hands. "Meanwhile they are going to destruction."

The bell rang out loudly through the house. The two mechanics rushed into the room.

"Get all ready for the start of the rocket!"

The men stood still, not understanding the engineer.

Irene pointed out the window. "Don't you see: S-O-S?"

Her knees trembled. "That is the rocket."

CHAPTER XI.

A New Predicament

FOR a moment the rocket was apparently motionless. In the tiny cabin the three men were crowded together, trying to rid themselves slowly of the frightful attack of nausea, dizziness, and depression. Of course they were no longer on the floor or the bench but floating in the air.

Now the velocity meter began to register again. At first it did so slowly, then faster and faster, then much faster than it ever had before. After only a few minutes there was a jerk in the little casing—the instrument was broken.

The new and very extraordinary velocity and the renewed acceleration had not been so unpleasant in their effect on the travellers as the start from the moon, because the velocity had been expressed not jerkily but by a constant even increase.

After the velocity meter was broken and the ship had assumed a definite even motion, nothing of this motion was any longer felt by the occupants.

All Right, the ever contented one, held on to the metal rail, so that his feet touched the floor and he seemed to be standing in normal fashion. He tried to smile.

"What is happening now?" he asked.

Egon, pale and still struggling against a severe attack of nausea, nooded and said, "Yes, yes."

Korus, who had seated himself on the bench, looked anxiously at him. "What do you mean by 'Yes, yes'?"

"Let me rest a moment. The matter is quite clear to me. Let us first have a drink of cognac."

They drank right out of the bottle, and very soon they began to feel better. First they straightened up the little cabin a bit, and the American pressed the button which sent back the beryllium plates from before the pane of the little round window.

He looked out and gave a loud cry. "I think the whole universe has gone crazy."

It was a fantastic sight. The pitchblack sky was strewn with thousands of stars, but these stars seemed to be racing around the rocket like an orrery gone mad.

With a quick pressure Egon closed the window, while the other two looked at him in horror. All Right said, with a rather shy and hesitant glance at Helmstätter, "Are we really standing still?"

Egon had collected his thoughts. "The whole thing is actually very simple," said he. "We left the moon in exactly the same way we left the earth previously. There is this difference, that we did not succeed in replacing the exhausts and the hidden parts of the rocket as they were at first, and there is the second difference, that we this time had no auxiliary rocket to cast off. Things have gone with us just as with Fritz Opel in his second trial trip at Berlin with the rocket automobile. The exhausts did not kindle one after another in the proper succession but in wild confusion, almost all of them at once. Therefore the concussion was extraordinarily stronger and more fearful than in our start from the earth. It is actually a wonder and a proof of the excellent construction of our rocket and of the strength of the metal, that they withstood the shock. Of course the Lord deserves most of the credit. The machine we call 'man' is indeed incredibly remarkable, as shown by the fact that we have the satisfaction of being alive."

The American interrupted him. "But—"

Egon paid no attention. "Let me finish speaking. The matter is not so simple, and I must think it out. By a look into the rear room through this pane of glass I have convinced myself that there actually remains of our whole rocket not much more than our especially solidly built cabin. See for yourselves!"

He pressed the button, making the plate slip away from the rear pane of glass, as he had done before, when his two friends were still almost stunned. He turned on the little searchlight before the window.

The greatest portion of the rear part of the rocket had disappeared. Wildly distorted and jagged bits of metal stuck out. All the rods and tubes that had been fitted in the complicated mechanism in this rear room were now stretched out at great length, as though pulled straight out by machinery. It hung behind the ship, slightly bent downward, looking somewhat like the tail of an airplane.

Korus cried out, "Why, we are a wreck!"

Egon nodded. "That is what we are."

Likewise the American had lost his humor. "Then have we no more possibility of independent motion or control?"

Egon shook his head. "No, we have lost all our independent motion."

"Then are we standing still?"

"Not just yet. We are moving with such velocity that our measuring apparatus went on a strike and preferred to break."

"I do not understand."

"It is simply an example in mathematics. By the almost simultaneous but irregular ignition of the exhausts and by the explosions of our total supplies of hydrogen and oxygen, converted into detonating gas and exploding in a few rapidly successive shocks we got two results: we were not only hurled ahead at an almost incredible speed, but we were also diverged from our course, so that we did not approach the earth vertically but instead encountered its force of gravitation tangentially, at something like a right angle. We had better fortune than Fritz Opel, whose auto could not help being smashed, when it diverged from its course, for in space we had sufficient room to let ourselves be propelled forward even in zigzag lines. Accordingly when our fuel and therewith our independent motion came to an end, we met the orbit of the earth in such a way that we necessarily, at the speed we had, were obliged to commence rotating about the earth. We now became a second moon, though a very little one, and that is what we are at present."

"Then we are lost!"

"Quite the contrary. If our own impulse had perchance sent us beyond the orbit of the earth, then perhaps we should have become a new planet with an orbit around the sun."

"Thank you very much!"

"How long our wild course lasted, I do not know, since we lost our senses. Still it must have been a considerable time, for I had wound my watch just before we left the moon, and now it is almost run down. Therefore almost twenty-eight hours must have passed. Our departed measuring apparatus also indicates that in this time we have traversed the almost incredible distance of one hundred and eighty thousand kilometers."

Egon Explains

THE American still shook his head. "But then I do not understand why our excellent velocity meter has given out at our present speed, which is surely less."

In the scientific explanations the two had completely forgotten their desperate situation.

"Our velocity is after all not so very slight. If we just figure things out, the moon encircles the earth in thirty days. Otherwise expressed, it does so in two and a half million seconds. Now let us reckon further, taking into account the fact that we are not, as I first assumed, about halfway between the earth and the moon but that we have traversed in our mad course almost three quarters of the distance back. The radius of the circle which we have to describe is therefore a much smaller one, and besides that, we struck the orbit of the earth tangentially at great speed. I cannot determine with exactness the velocity with which we are encircling our dear Mother Earth, but it must be enormous."

The American gave a loud cry, and Korus stared in horror at Egon. "Then we are hopelessly lost!"

All Right tried to summon up a bit of reckless humor and to make a jest: "I must certainly notify my employer to send me my salary by the next mail."

Korus gave him an angry look, but Egon said calmly: "What does 'lost' mean? At present we are still alive. It has been a miracle that our rocket was not smashed. We still have on board food for about three weeks. Kind fortune has granted that our air machine was not broken. Since we are in empty space, in spite of our great velocity there is no heating and consequent melting of the apparatus to be feared. Thus we have at least two weeks before us."

"And then we are sure to die."

"Dear Mr. Korus, what is to happen in two weeks need not frighten us to-day."

Korus looked at him. "I am not cowardly," said he, "if I look the facts in the face. We are lost, for you yourself have said that we possess no means of getting ourselves out of this orbit. Before us lies exactly the same fate as has often befallen the crew of a submarine. We still have food and air, but we know exactly when these will come to an end. The only difference is that in the case of a submarine there is the slight possibility of help coming from outside, while in our case this is impossible."

"Why?"

"First, because there is no second rocket available."

The American contradicted: "If I am right, Waldemar Apel built two rockets."

Korus went on, "Do you consider it possible for anyone to see us from the earth?"

Egon shook his head. "With our small size and our immense distance from the earth we are so tiny a grain of dust that even the best telescope would not see us. At most it might happen that a very keenly observant astronomer—and I admit that this is a very improbable chance—would see from time to time a very faint shadow whisk across the lens of his telescope."

Korus shrugged his shoulders in vexation. "But then—"

"Then you are quite right in saying that we shall not be seen from the earth, if we do not make ourselves noticeable to the earth."

"How can that be done?"

"By our making signals to the earth. That could be done in two ways. Professor Oberth had advanced the theory that it is possible, by means of a number of metallic mirrors of sodium which are fastened on a wire net, to produce reflections which are not only visible on the earth but which also, according to Oberth's assumption, even possess such radiation power that one can warm with them entire parts of the earth which are otherwise frozen. I have thought that with such a mirror, which I have on board, one might be able to send a Morse signal to the earth. But I do not know myself how practicable this is. I have a second idea on the subject. You all know the 'sky writing' done for advertising purposes by aviators.

"According to my own ideas I have already built an apparatus of which even Apel knew nothing. It must be considered that the arrangement used on the earth would not work here. First, we are moving with such velocity that the writing would be distorted, and second, in the airless space we could not simply use vapors, and last of all, the letters would have to be monstrous, to be seen by chance by astronomers or maybe even by the naked eye. My apparatus is so arranged that very fine metal dust, placed in exhausts set obliquely, would be driven very rapidly out into space by a miniature rocket, using hydrogen and oxygen. This dust would go through a stencillike device having the form of the letters S-O-S. Through the placing of the exhausts this writing is spread out very extensively. The metal dust makes it legible. Thus perhaps one could write gigantic letters which could be seen from all parts of the earth. The mirror signals, even if they would not be noticed from the earth, would be in reserve to point out the way, in the higher strata, to a rocket ship that might be seeking us."

A New Hope

"BUT how will you do this?"

"There is no difficulty at all in leaving the rocket through the air-lock, in a diving suit, as we did on the moon. Standing outside one could then give the signals with my writing machine and at the same time spread out the net and fasten it to the rocket. Then those remaining behind would have to pull back into the rocket the one outside, in case he could not get himself back."

"Do you believe that a human body can stand the velocity out there?"

"That does not come into question for us, since there is no resistance or friction to be considered."

Korus was still doubtful. "Which way are you going to send the signals?"

"That does not matter. Since we are moving around the earth very fast, the signal, which we can repeat several times, will surely be seen somewhere in inhabited regions."

While Korus sat there thoughtfully, reflecting about what Egon had said, the American nodded his head vigorously.

"Fine. In this way we could imitate the signs of the Morse alphabet and send the New York Evening *Ledger* a whole account of what has happened."

"Of course we could," agreed Egon, "but at present I think we shall limit ourselves to one signal."

The two looked at him.

"S-O-S," he said.

There was a moment of absolute silence. Very slowly this tiny gleam of hope began to take root in their hearts. If it did not prove to be their salvation, still it was an idea, an activity, an attempt.

All Right threw back his head suddenly. "May I venture a remark?"

Egon gladly received this attempt at a carefree spirit.

"Mr. All Right has the floor."

"I am frightfully hungry."

The electric heating plate was brought out of the cupboard. Egon satisfied himself that one battery was still fairly well charged. Some cans were opened and the contents prepared. The fourth of the ten champagne bottles was un-

corked, and they ate with the healthy appetite of men who indeed knew the seriousness of their position but likewise knew themselves for the moment out of danger.

Egon had examined the diving suits.

"One suit and one helmet are uninjured, but there is only one oxygen cylinder left which can be used."

"Then we have only one chance to give the signals."

"I hope that it will be sufficient."

Egon took one of the smallest sodium mirrors, opened the little medicine chest, and got out a roll of black plaster. He pressed this all over the mirror that nothing was left of the brilliant surface but the letters S-O-S, very plainly shaped. Then he took from a cabinet an apparatus not unlike an ordinary fire extinguisher.

"See, this is my machine. Up here is the screen with the letters S-O-S punched in it. Inside the case is very fine black metal dust, and here is a very long hose. We fasten the little rocket to this hose. As soon as I am outside, you, Korus, will set the mechanism in motion, thus, so that the exhausts will commence to operate about five minutes after I have left the rocket. Then the metal dust will be projected into space with great force, exactly in the form of the S-O-S."

Thoughtfully the two regarded the apparatus.

"Now give me the diving suit."

"No, me!" said Korus.

"You must give it over to me. I was the one who made the mirror and the writing apparatus."

Helmstätter dressed himself in the suit. He took the wire net with the mirrors over his arm, the writing apparatus in his hand, and was ready.

All this was a mighty load which he would not have carried on the earth, but here he hardly felt it. About his body he had buckled a belt, and to it he had fastened the thin rope. Naturally his hands as well as his whole body were covered with the artificial skin, which prevented any loss of warmth.

"Now I shall enter the air-lock, and you will close it airtight behind me. If I want anything of you, I have the bellbutton out in the air-lock, and we can communicate by means of Morse signals."

A New Disaster!

He entered the air-lock, after switching on the oxygen cylinder in his helmet, and the other two carefully closed the airtight door behind him. All this was done as though it were something perfectly natural and self-evident. Egon did not even press their hands in parting. They all knew very well that what was now to be done would be the most frightful of all their experiences. They knew that in the next second Egon might perhaps be rent to atoms. They knew that the attempt he was now risking was their only chance for rescue, tiny and improbable as it was.

Egon stood for a moment in the air-lock, obliged to pause for a time, until his heartbeats became calmer. He could not prevent his whole life suddenly passing before him like a flash of lightning in this instant. He thought that he saw two dark eyes gazing at him from some distant world: Irene Allister!

Quickly he opened the outer door of the air-lock. Now he felt just as he had once before, as a student aviator, when he had jumped out of his burning plane at a dizzy height, not knowing whether his parachute would open or not.

Nothing happened. Hesitantly he stepped outside. He had to push himself away from the rocket with his hand he remained floating motionlessly outside.

He hung the iron hook at the end of the rope on a ring on the outside of the rocket and looked about him.

He was unwilling to think; he forced his mind not to take in where he was. He would not remember that the earth lay one hundred and eighty thousand kilometers down below him. No, not below him but apparently off at the right. It formed a huge disk, on which his eye, aided by the keen lenses of the helmet, could make out as though on a terrestrial globe the continents and countries.

It was morning. On wide stretches of the earth there still lay deep shadows.

Egon took from his pocket a small bottle. He had thought of this in the last moment. It contained, though only in a very small amount, the same mixture of hydrogen and oxygen as was used for propelling the rocket. This container was also closed with a tube which could be worked by a lever.

He opened the tube and a little of the gas escaped from the container. Since he held this behind him, he was slowly propelled forward until the rope was taut. He had a standing position. He was able to preserve his balance by moving the bottle about and letting it flow out in various directions.

In his right hand he lifted the little mirror. Now the intense rays of the sun struck it. It flashed like a bruning-glass and cast the rays toward the earth, on those great still shaded regions.

Egon could not follow the course of the light rays by eye very far. He could not tell whether they reached the earth or whether they made the S-O-S visible to human eyes.

For a moment Egon floated motionless before the rocket. Then he felt a violent jerk which pulled on the little rope. Korus, inside the ship, had started the mechanism of the little container.

Egon grasped the writing apparatus firmly, so that it should not escape from his hand, and saw how the metal dust was blown out of the exhausts, flying with great speed out into space, but then remaining motionless, when the force of propulsion was past.

The form taken by the writing was so extensive that he could not take it all in. He guessed, however, that now a gigantic S-O-S in black particles of metal must be floating in space.

He looked about, and at this moment his vision dimmed and his heart nearly stopped beating. In the last quarter of an hour he had paid attention only to the mirror and the written signal.

Now the most frightful thing possible had happened.

Egon was perfectly motionless. The gas container was empty. But the rope which connected him with the rocket was no longer fastened to the latter. Probably the impulse of the writing machine had sufficed to free the hook from the ring. The rope was floating freely in the air, and the rocket was at least twenty meters from the end of it.

He tried to make swimming motions. Of course it was in vain. He encountered no resistance. He simply lost his equilibrium and had trouble in floating back into it.

The rocket was apparently standing still, but he was moving, to a degree hardly perceptible, more and more away from it. He could not understand how in this moment of the most fearful certainty of death he could think so calmly.

It was quite clear to him what had happened. He, the only person in a diving suit, a hundred and eighty thousand kilometers above the earth, had become a third satellite. A new satellite, although he did not yet know whether he was destined to rotate about the rocket as its moon or whether he was to fly about the earth, a tiny particle, more rapidly than the rocket.

The wire netting with the mirrors had escaped from his arms. It had unfolded and was now floating in space, between him and the rocket, about halfway.

He was seized by a paralyzing terror. His thoughts worked feverishly. He was lost unless he succeeded in reaching the rocket again.

A sudden thought flashed through his mind. Why, he had the oxygen cylinder in his helmet. If he should loosen the screw which closed the helmet at the back of his head, then the oxygen, which was compressed in the cylinder, would flow out, of course with some pressure. Then the oxygen would propel him ahead, and if he had good luck, he would reach the rocket.

But with every atom of oxygen which flowed out of the helmet there would also escape the possibility of his living and breathing. When the supply was exhausted, when the out-flowing gas no longer closed the opening by its pressure, then through this opening the chill of space would enter and freeze him to death in an instant.

He looked over at the rocket. Why didn't they steer? Why didn't the two men help him?

Inside sat the two, with their anxious deathly white faces pressed to the window pane, seeing him slowly move further and further away from the rocket. To be sure, the levers of the steering apparatus and the controls of the gyroscope were still there, but the steering apparatus and the gyroscope were themselves gone. Only some levers and rods projected out of the shattered stern of the rocket into space.

The sun had risen. Brilliant and dazzling, its full force struck the rocket, unprotected by any atmosphere. Far below it lit up the great disk of the earth, making a glittering light flash from the polar ice-caps.

Out of the black eternal mantle of space the constellations shone, harsh, cold, and sharply defined.

Close beside them there flashed brilliant sparks from the mirror-facets of the net which was floating freely. Silently the rocket, the new satellite of the earth, sped on its newly formed orbit. Before it went the tiniest of all bodies in the universe, the grain of dust in space—the living being, still protected from the cold of space by his diving suit, with his lungs still breathing the remnants of the oxygen in the cylinder, his senses still alert, going to meet death with open eyes.

CHAPTER XII.

A Last Letter

SINCE the remarkable writing in the sky had appeared, the rocket had again become the topic of conversation of all the world. Almost at exactly the same time the gigantic S-O-S had been seen all around the earth.

The astronomers racked their brains and found no explanation. To be sure, reports which could not be checked came from all directions. The observers at the huge telescope maintained that at definite intervals a shadow was passing over their lenses. Others thought this an optical illusion, and probably they were right.

Unduly imaginative persons jumped out of bed at night, if any airship passed, believing that they saw the rocket.

Harmless meteors were thought by over-zealous newspapermen to be the remains of the falling rocket.

All mankind was divided into firm believers and mocking scoffers.

"If the signals come from the rocket," asked the latter, "where has it been these four weeks?"

Yellow journals went in for depictions of incredible journeys through space, seeing the rocket already returning with treasures and strange forms of life on board.

"Where has the rocket been?"

"Where is it now?"

The calls for help had come to an end. Again day and night the most delicate radio receiving sets had listened to space. Again all telescopes, all ships, and whole armies of airplanes had observed the earth and searched the sea. The call for help had come to an end, but the rocket had not plunged down anywhere. Thus there was only one thing which was incontrovertible: for ten hours, visible all around the earth, there had stood in the sky the huge uncanny S-O-S.

Mr. Joe Allister in Frisco was greatly excited. Joy and anxiety were struggling within him. Joy at the possibility of the return of the rocket, and mortal anxiety for his child. Immediately after he got the first report by telephone, he ordered a plane.

The pilot smiled.

"I must get to Atkinson Peak immediately."

"We can fly there, but it is imposible to make a landing at present in the icy mountains."

"Then let me descend by parachute. Even if the airplane is wrecked, I must at once reach my daughter."

Two hours later the monoplane in which Joe Allister sat was mounting up into the heavens.

On Atkinson Peak they had been working feverishly. It was indeed night, but the sky was perfectly clear. Of course the comparatively small telescope showed nothing. With the coming of darkness and night the signals from space had vanished.

Waldemar Apel was firmly resolved on starting. The second rocket was ready, richly provided with food and drink, and having great quantities of fuel on board. While Apel, already dressed under his suit in the artificial skin, in case of any contingency, was giving the last directions below by the rocket, the domed roof was opening up and the night sky was looking down into the great hall.

Irene had hurried to her room, saying nothing to Apel. In feverish haste she changed her clothes, putting on an artificial skin and over it a leather sport suit. She had disconnected the telephone. Even more, she had broken the connection by cutting the wires. She knew that her father would prevent her, and she was firmly determined to accompany Apel.

Irene took from her desk a letter. She had written it long before, right on the very first day. There it had lain, and she had not thought that she would be able to use it. She read it once more:

"Dear Father: Man must act as fate requires of him. I promised myself to make the ascent with Apel, if the rocket needs help. I must do it, or I shall never forgive myself all my life.

"If Egon Helmstätter dies, we are to blame. Both of us. He wooed me, and I demanded of him, to be sure half in jest, an extraordinary deed. You have had the rocket built and have given him the possibility of the journey in space. We are to blame.

"I love you, my dear Father, but I also love Egon. We played together as children, and I saw him again as a mature man. That I love him, that I have always loved him, I only knew after the rocket ascended before our eyes. He needs help. If anyone can bring it to him, I want it to be myself. Understand me and forgive me, my dear Father. Irene."

Alone In Space

THE rocket was ready to start, and Waldemar Apel was just about to close the door, hoping that Irene had changed her decision. Yet he was sorry if he had to do without her cleverness and her young strength, after all. But just then she sprang lightly into the cabin.

"You really intend to go?"

She wore a look of determination. "I would kill myself before your eyes, if you refused to let me accompany you."

"Get in."

Apel had not broken his word of honor. He had only promised not to ascend if no call for help came from the rocket, and the S-O-S had come.

At high speed the airplane was rushing through the night. In mortal anguish Joe Allister stood at the window of the little cabin, staring out, counting the seconds. He saw the mountains rise up, he saw before him in the moonlight the peaks of Yellowstone Park. He drew a breath of relief. In a few minutes he would be there. The pilot had promised to land, explaining that he could do so by wrecking the plane.

Already they had come down low. Already Joe Allister saw through his binoculars the observatory. Then it became light, there was a flare of fire, the mountain seemed to become a volcano, and then something shot high up into the air. A frightful gust struck the plane and whirled it about, but the pilot kept control of it. High in the sky a new heavenly body vanished, drawing after it a long fiery tail like a comet. Joe Allister lay on the cabin floor, wringing his hands and thinking only one thing: "Too late! Too late!"

The plane landed close by the observatory, breaking its wings in landing, but Joe Allister and the pilot were unhurt.

The millionaire leaped out, ran over the snow-covered clearing, and reached the house. He saw that the air pressure of the ascent had shattered asked, "Where is the rocket?"

The man's eyes were shining. "Ascended safely and without accident."

"Where is my daughter?"

"Gone into space with Mr. Apel."

Allister had enough strength not to collapse. He showed no weakness. He had them point out her room, where he locked himself in and read Irene's letter.

He remained alone all night in the locked room, giving no answer, even when they knocked on the door. Nobody was to see that Joe Allister was weeping for his last child.

High in space a solitary person was floating, separated from everything, separated even from the rocket. His hand still convulsively clutched the writing machine. The mirror-net had slipped from his hands and was floating somewhere in space, far below the rocket. His thoughts worked feverishly. As long as he had still been able to give signals with the mirrors, he had at least had something on which he could concentrate his mind. Now even the written signals in the sky were beginning to fade, and he felt that it was all over with him.

His breathing was getting difficult. The oxygen cylinder must be nearly empty. It would not have sufficed to propel him to the rocket, even if he had exposed himself to the deadly chill of space. If he had still been able to reflect clearly, he would have been surprised that he suffered so little and that the twilight was coming for him so painlessly.

In the cabin of the rocket were Korus and Mr. All Right. The American, whose wound no longer pained him, lay on the floor, while Korus stood at the little window (the only one remaining) and looked out.

"Isn't the doctor coming back yet?" asked All Right.

"No, he still seems to be making signals with the mirror. The giant writing, which I certainly cannot see the full extent of, stands in the sky."

It was only after some hours that Korus understood what had happened outside. When he saw the rope to which Egon had tied himself floating freely in space, a fearful terror paralyzed his limbs. He turned to the American and said, "All Right, now be a man."

"What is it?"

"Now pull yourself together."

"Do not keep me in suspense."

"We have lost the doctor."

All Right stood up. What Korus feared did not happen. He did not collapse.

"Tell me quickly what has happened, or I cannot stand it."

Korus related what had occurred. "All Right," said he, "we must save him."

"We cannot; he is surely dead already."

"He is not necessarily dead. He has the oxygen. He is floating a few meters away from us. The gravitational force of the rocket is holding him near us. We must save him."

A Second Attempt

THE American nodded. "Still," he said, "even if it is only a single meter, we cannot go out into space."

"I must."

"It is your certain death."

"That does not matter. We are lost this way, too. He is our only salvation, and he is our comrade."

The opposite to what Korus had feared had happened. All Right had a determined face.

"Where is the other artificial skin?"

Korus nodded. "I shall put on the torn skin. You know we have glue. You will glue the rags of the third skin over the tears. For the few minutes I need it may hold out and protect me from the cold."

"Give me the two helmets. While you are dressing, I will find out whether one of them can be made to do."

One helmet, which Korus had worn, had been crushed by the block of ice. The other helmet was indeed still undamaged, except that the inner pipe system was entirely bent out of shape.

There was feverish activity in the cabin. The American forgot his illness and hammered at the pipes. It was a painful task. Egon, the technician, would have done it more easily. It took hours and hours before they had patched up the apparatus somehow.

"Too much oxygen will flow out."

"I shall take only a little in the cylinder."

It then appeared that the work had been in vain. The entire pipe system was leaky.

Korus nodded his head energetically. "Then it must be done without oxygen, if only the helmet is cold-proof. I shall take one more breath of oxygen here. I am a good swimmer, and pearl divers can remain under water five minutes and longer without breathing. I myself have likewise remained under for a long time. Either I shall succeed in a few minutes, or else I shall not succeed at all."

Meanwhile Korus had put on the artificial skin. It was torn in many places, and the American glued great patches over them. "Of course we cannot be sure whether this glue will stand the chill of space."

Korus stood all ready, his helmet on his head, but with the valve still open, so that he could breathe. He now took the long leather lasso and also a small cylinder of oxygen. He had seen how Egon had propelled himself with such a thing.

"Then in God's name. Blow a bit more oxygen into the helmet and close the tube.

Korus did not answer. Silently he brought in all the cylinders. Then he bent down, while All Right made some more oxygen flow into the helmet and closed it.

They shook hands. Korus stepped into the airlock, closed the inner door, and went to the exit. For a moment he had to collect all his courage when he looked out into space, with the thought of leaving the rocket. He did not know the laws of nature, as Egon did. He did not understand what he saw. He was seized with horror.

Egon was floating perhaps four meters away. Korus had an idea. The lasso was eight meters long. What if he simply remained at the exit and threw out the lasso, catching Egon with it?

He tried to do so. With all his might he threw the slender leather rope, but it did not fly out. It had no reason for flying ahead in airless space. Then the end floated freely in the open.

Korus clenched his teeth. He tied one end of the lasso tightly to the rocket, fastening the other equally tightly to his belt. Then he opened the oxygen container, held it behind him, raised his feet from the rocket, and with beating heart let himself be propelled out into space.

The start of the second rocket had of course caused a tremendous stir, though it was only a few observatories that could see it. In all the newspapers there were articles several columns in length. Great praise was given to the deed of Waldemar Apel and Irene Allister, who had simply started out without any advertisement, without an artificial island, and without any ceremonial speeches.

To be sure, it was generally felt that this new hazard of human lives was useless.

What madness! A rocket is launched into space, vanishes for four weeks, and then suddenly incomprehensible signals appear.

These are signals in which hardly anyone actually puts any credence, and a second rocket travels off into space, to look for the first one.

It would be laughable, if it were not so sad and if it did not again cost human life.

Still, they gave praise to Apel, for the second rocket had made a perfect ascent and had been watched for hours by the observatories, in its slender beauty. Then it had become smaller and smaller. Finally it had vanished into space, a tiny dot.

They spoke respectfully of Joe Allister, who had now lost his last child. But nobody, aside from a few whom the public described as "hopelessly incurable", believed that anything would ever be seen of the two rockets, though this time,

also, the empty auxiliary rocket was found floating in the ocean, a few days later.

Waldemar Apel's rocket had made its ascent exactly as its designer had anticipated. By the explosions of the auxiliary rocket it had been propelled straight up and fast as lightning. The pressure on the two persons had not been any worse than Apel had calculated beforehand. Likewise they had not become insensible, having merely become violently seasick for a few minutes, after which they had quickly recovered.

High up, almost at the limit of the terrestrial atmosphere, Apel cast off the auxiliary rocket. Then he went, as he expressed it, with full steam into space.

All that had taken place simultaneously and violently in the precipitate ascent of the first rocket occurred here slowly and intentionally. Wonderfully smoothly the ship sped on its course, while Apel and Irene scanned the sky with their telescopes.

Kurt Korus had left the rocket. At first his heart threatened to stop beating. But then he saw that he was gliding forward very gently, and soon he reached the body of Egon.

He made an effort to grasp Egon, held on to him, and put his arms about him. Just the same, some minutes had passed. Egon had slipped away from him several times. Now, when he had his arms about him, he felt his senses leaving him. Only too quickly had the air in the helmet ben exhausted. Suffocation was beginning to render him insensible.

All Right had not been able to remain on his couch. He had slowly crept to the round window. He had watched Korus, seeing how he had reached Egon and how they then remained there motionless. He considered matters in a flash. Desperation gave him strength. He stood up on his sound foot. He still had gloves of artificial skin. He pulled them on and put on his head the crushed helmet. Then he wrapped about himself all that there was in the way of coverings and bits of clothing and drank a great quantity of rum, to warm himself internally.

He had no artificial skin, but the thick coverings and the increased internal warmth might let him defy the chill of space for a few instants.

He crept into the air-lock, shut the inner door, forgot his pain, and pulled at the lasso.

There was no weight to overcome. The two bodies, locked in close embrace, floated closer. Summoning up all his power he pulled them into the air-lock, pushed them into the cabin, got in himself, and hopped about on his sound leg to switch on the heat and release oxygen, to replace the lost air. He felt himself collapsing. He had a terrible pain in his wound, but his energy was keyed up. He opened the two men's helmets, made oxygen flow into their mouths, poured some rum between their lips, and saw first Korus and then Egon begin to breathe. Their eyes opened, and then he himself fell unconscious from pain.

CHAPTER XIII.

A Clue Found!

AT the same velocity at which the first rocket had travelled through space, the second one was now following it. A day and a night had passed, and it was about to become the second morning. Waldemar Apel had forgotten that Irene Allister was a girl. In her leather sport suit she looked like a boy, and in her calm assurance of every movement, as she read the instruments, as she indicated that she understood every technical feature, she was a splendid assistant. Moreover, the energy and self-control which she had inherited from her father had kept her from hesitating a second at the moment of ascent.

The cabin was exactly like the one in the first rocket, except that Irene had quietly put up a curtain to divide the room at night.

During the whole first day, as well as during the two nights, neither of them had perceived anything that could serve them as a goal.

"To-day I shall go out of the rocket and look about in the open. By now we must be about far enough for us to be able to determine whether Egon's rocket is within our path."

Irene replied perfectly calmly, "Naturally I am coming, too."

They were speaking as though it were simply a question of ascending the upper deck of a ship, yet it was neither more nor less than venturing a step into infinite space.

During the night Apel had let down the metal shields before the windows. They had to sleep, after all.

Now he pressed a button, and the metal shield moved away. In the same instant there poured in such dazzling sunlight that they were nearly blinded and had to darken the window again at once.

"Let us try the other side."

Irene worked the lever, the metal shield moved back, and their eyes were dazzled by an almost stronger sunbeam, which most remarkably did not seem to come from above but from right close at hand. They had to darken this window, also.

"It is incredible."

"We seem to be between two suns."

"Could it be a meteor?"

Apel had brought out two pairs of sun-glasses. They protected their eyes with these and tried once more.

The position of the rocket had meanwhile changed a little. The oblique rays no longer struck the window exactly. For a moment Apel looked, and then he became evidently excited.

"Come here and look for yourself. Do you know what that is?"

"It is a single glowing point."

"Look closely."

"It is a single glowing point."

His face had a triumphant look. "Don't you really guess? I am convinced that Egon's rocket is very nearby."

"Mr. Apel?"

The engineer had not taken his telescope from his eye.

"That is no star, that is no meteor, that is not even a comet."

He laughed contentedly. "Those are mirrors. That is the large net with the mirror-facets, which Egon had with him."

"You really believe so?"

"He spread it out and made signals with it."

"Then you believe that the other rocket—"

The old man nodded. "Very probably. Now I am going out."

"And I too."

"Not yet. I am just going out into the air-lock. Now we must see which way we have to steer."

With youthful speed Apel, who was already dressed in the artificial skin, slipped on his oxygen helmet. Skillfully Irene made the fastenings and closed the tube and fastened the thin leather rope to Apel's belt.

"You take your helmet also, enter the opening of the air-lock, and hold the rope. If I raise my right hand, pull me back."

In spite of her steady nerves, Irene had a moment of fearful dismay when she stood in the projecting air-lock, swaying in its light spring-framework, while right at her feet she could look down into the infinite abyss of space.

Apel, too, stood for a moment in hesitation. He also was to make the first conversion of theory to practice. He did not know that Egon had already done this. At this moment he trembled, not with fear for himself but at the thought of what would happen to Irene, if he did not find his way back.

Meanwhile he had given an imperceptible pressure to a lever. He had already thought out an improvement. A little oxygen cylinder was fastened to his belt, pointing backward, and the pressure of a lever opened the valve. While his will still hesitated, he felt that his feet had already left the rocket. As he now, without feeling heat or cold, floated freely in space, it seemed to him as though a truly divine sensation were pervading his body and as though he had found the highest fulfillment of his dreams.

He looked about. Now he was fairly close to the net. It was floating in space, fully outspread, but there was nothing to be seen of the rocket. His telescope scanned the heavens. Suddenly something whisked by overhead at a tremendous speed.

It passed like a flash of lightning, many thousand meters above him.

Apel raised his right arm and had Irene draw him back. Already the mirror-net lay far below them.

An Explanation

THEY were again in the cabin. Before a word was spoken, Apel worked the levers.

"What is it?"

Irene saw how he was turning the gyroscopic controls.

"We must go back a little way. First we must fold up the net and get it into the rocket. We must not make willful oversights, and we do not know whether the mirrors indicate good fortune or bad."

"Have you seen the rocket?"

"At least I know where it is."

"You know?"

"One thing at a time. First we must stow away the mirrors."

It was astonishing how readily the rocket obeyed the controls, how excellently the exhausts worked, which were alternately shut off and again started. In a short time they were close by the net. Apel, who now moved about outside with perfect confidence, got the net alongside, where they folded it up and pulled it into the rocket. Then Apel closed the air-lock again from the inside and rubbed his hands contentedly, while he again worked the controls and at the same time switched on the exhausts.

"Why do you torment me this way?"

"There is still time for explanation. Look out of the window."

Irene looked out and gazed at the disk of the earth.

"You have turned. We are no longer ascending."

"No."

"The earth is no longer behind us but below us."

"Of course."

"Are you going to return?"

There was anxiety in her eyes, and she was vexed by the smile on Apel's face.

"In that case I would turn the bow of the rocket toward the earth."

"But what are you doing?"

"As you correctly guess, we are encircling the earth."

"Do you think you will find the rocket here?"

"Just sit down calmly and I will tell you: I have seen the rocket, probably sixty thousand meters, or a couple more or less, above us."

"And then aren't we to ascend any more?"

"I will explain to you. Egon's rocket has apparently lost the power of independent motion. Probably the fuel is exhausted. For some reason, which I naturally do not know, Egon's rocket has tangentially converged on the orbit of the earth at a very high speed, becoming as it were a new though tiny moon, and now it is encircling the earth at an extraordinary velocity."

"But then—" began Irene, with an expression of horror.

"Then nothing is lost. We must just manage to secure for ourselves, by using our rocket motor and the abundant fuel we still have, as nearly as possible the same velocity and at the same time slowly rise upward. Of course we must cautious ly avoid having our orbits meet prematurely."

Now Irene began to understand. She saw how the velocity meter rose from minute to minute, as they encircled the earth faster and faster.

Egon and Korus were again awake in the cabin, Egon very much exhausted and dull, while Korus had a splitting headache.

The American lay unconscious on the floor. The cabin was again warmed, but therewith the last battery had been exhausted. They unwrapped from All Right the covers and protections and put him to bed. On investigating his wound, they found it broken out and very bad

indeed, to judge from appearances. He recovered consciousness and groaned in pain.

Egon and Korus pressed his hand. "Now you have saved both of us."

While his pains slowly lessened with the application of healing substances, the American smiled.

"We have no reproaches or thanks to give one another. We have all done the same thing. First the doctor, then Korus, and lastly I."

"And now?"

They sat together in silence. Korus had opened the last champagne bottle.

"We must refresh ourselves."

They all three felt that they had reached the end of their strength. Korus repeated, "What now?"

Egon replied almost angrily, "Wait, of course, to see whether the signals were seen."

"And if they were seen?"

"Wait to see whether Apel sends up the second rocket."

Pitilessly the American continued asking. "And if he does?"

"Wait to see whether they find us."

"That is, wait and wait, while we slowly lose our reason."

Again there began to be a flash in his eyes. Korus, too, was evidently excited. As for Egon, he felt most inclined to scream loudly.

"We will drink wine and go to sleep."

They emptied the last bottles, and alcohol as well as exhaustion put them to sleep.

The Signs of Rescue

APEL'S rocket sped ever faster about the earth, making ever wider circles. Now Irene stood at the window. Twelve more hours had passed, but neither of them had been able to close their eyes.

"Mr. Apel, look up there?"

Not at all far above them, though still of course more than a thousand meters, the other rocket was just speeding past. Even now it was going much faster than they, but one could very plainly make out the form of the rocket.

Irene wept loudly. Apel opened the exhausts still more widely. The velocity meter trembled and shook and could hardly keep on registering.

Egon was the first to awake. He rose, stepped to the little round window, and gazed out.

He reflected. The oxygen which they had was again almost exhausted. The edible provisions were practically at an end, for much was spoiled. They could cook no longer. The electric current was used up.

If help did not come in a few hours, all was lost.

His face had a set expression. Whence should help come? Now Korus stood beside him, while the American still slept.

"Korus, you are a man."

"I know what you are going to say to me. It is all over."

"Very probably. Pull yourself together."

"I am composed, that was just a momentary feeling."

"We will not say anything to the American. I should not care to have an ugly scene in the last moment. Give him some morphine, so that he will remain asleep. We will finish our notes, in case the remains of our rocket should some time come to earth again. Then—then we will simply open the windows—removing the metal shield from the broken one and breaking the other. The chill of space will quickly and painlessly release us from our sufferings."

Korus made no reply, but neither did he show any outbreak of unmanly weakness.

He stepped to the window and looked out. What Egon just now said was no surprise to him, yet—

He was young!

There was perfect stillness in the cabin. Egon was carefully arranging the writing material for putting down the last notes.

Suddenly Korus gave a loud cry. It was so loud that the American started up from his morphine sleep. Egon could not help thinking that it was a case of the insanity of the two young journalists.

"Doctor, doctor, come here, look!"

He shrieked and at the same time sobbed aloud. Egon jumped to the window, looked out, and cried just as loudly, "The rocket! Great God in Heaven, the second rocket!"

All Right straightened up. "What rocket?"

"The rocket bringing aid, do you hear!"

"Is that true?"

The tears ran down Korus's cheeks. "Can't you see by looking at us that it is true?"

The two stood at the window and looked out, as the second rocket slowly neared them.

They in no wise felt that in reality the two rockets were speeding along at an incredible velocity.

The Meeting

FOUR more days had passed on the earth, without anything being learned about the rockets.

Then happened a sensational thing which excited the entire world again. An article by the director of the Chicago Observatory was sent to the newspapers:

> The solution of the rocket mystery! It can no longer be denied that very small bodies are encircling the earth in a very rapid motion. It has not been possible as yet to make an exact calculation of their distance from our planet, but they cannot be very far beyond the limit of the atmosphere. I think it extremely probable that these are the two space rockets.
>
> By some as yet insufficiently explained natural law or by some fault in their construction both of them, the first and afterward the second, have been forced to encircle the earth.
>
> Thereby it is certainly proved that it is possible to fly with rockets into space but that it is not possible to return again to the earth. Unfortunately this seals the fate of the five bold persons who have undertaken the hazardous flight.

There was no one who would have dared to contradict these calm and concrete words. Yet after a few days came a new message of sadness. A Japanese steamer, en route to Frisco, saw on the high seas a strange object floating along. They lowered a boat and got on board half of a rocket ship with the cabin still entirely intact. A few hours later the steamer was in Frisco.

Again there was a violent conflict of opinions.

Joe Allister was close to madness! It was one of the two rockets, but which one?

There was nobody in it. Where were the passengers?

The following evening a reporter, who was again carefully searching the entire wreck, found in a corner a note which was entirely soaked through. The writing had become illegible, and nothing could be made out but the signature: "Irene".

This same evening it was necessary to take Joe Allister to a sanitarium. He had completely broken down.

It was the first rocket, the remains of which had been fished out of the sea.

Side By Side

THE second rocket had attained the velocity of the first. Separated by about fifty meters, they were now rushing side by side around the earth. Apel could not leave the controls for an instant. Even a single millimeter of wrong deviation in course at such a velocity would have inevitably caused in the next second a collision or a parting of their paths.

Irene, in her diving suit, stood in the outer door of the air-lock.

Yonder, in the same fashion, stood Egon. To be sure, in their equipment neither could recognize the other. They only knew that over there stood a person desiring help and over here a person who wanted to bring help, with fifty meters of infinite abyss lying between them.

Irene had wanted to make the attempt of flying across by means of the little oxygen cylinder. Apel had forbidden her. It was uncertain what currents might be caused by the two rockets travelling close together.

In the last few hours, as long as the distance was still greater and Apel was still able to entrust the steering to Irene, he had been working in the cabin. Now both his helmet and hers were provided with little telephones, and there was a wire between the two.

They wore their diving suits, and since they had sufficient electric power to warm the cabin again later, the doors stood open. Irene was serving, as it were, as the captain and Apel as the navigation officer at the controls.

"Still fifty meters."

There was a slight pressure below.

"Still twenty-five."

Their hearts beat. The two faces at the window of Egon's cabin were distorted with anxiety.

"Ten meters!"

A last imperceptible impulse.

Apel had steered in masterly fashion. The two rockets were close together. Egon took the leather rope from Irene's hand. Apel had shut off all the power. Perfectly evenly, as demanded by the laws of nature, the two rockets shot through space, now fastened together fore and aft, as a single body.

At this moment Irene Allister's strength gave out and she collapsed.

Waldemar Apel had achieved the most brilliant success. His controls had worked like instruments of precision, and the rocket motor had outdone itself.

He himself felt as fresh as a boy. Egon and Korus had forgotten all their troubles. The American had been wrapped in a great piece of the artificial skin, which Apel had on board for making replacement clothing in case of need, and brought into the second cabin.

Apel examined Egon's rocket.

"It is a miracle that it was not completely destroyed, a miracle that it brought you thus far."

Everything was put into the second rocket. Since all were again supplied by Apel with oxygen helmets and the American was covered by the artificial skin, they had drawn the two rockets close together and opened the windows, to be able to pass everything across.

Then the second rocket was closed up again, the electric heat turned on, and oxygen admitted.

Now at length the diving helmets could be removed again. Thus far Egon had hardly noticed Apel's young assistant, but now he thought he was seeing a ghost.

"Irene Allister?"

With a smile she held out both her hands to him. "I had to fetch you down again, doctor. My father and I were to blame for your flight."

She attempted to smile, but she did not succeed well. He sought the strength to hide his feelings at this moment. Apel gave him a bit of help in this.

The old man embraced Egon with both arms. "My boy, my dear boy."

Korus lay on his knees beside the American. The two men embraced each other, and then they kissed Egon and Apel. At length they all embraced one another, weeping and laughing, and in the narrow cabin five hearts that had been despairing, waiting, and hoping, gave vent to great joy.

They grew calmer only slowly. Irene Allister stood at one side rather embarrassed. All had embraced her, too, but she only knew that she had kissed Egon.

Waldemar Apel sought to turn their thoughts into other channels. He said with a smile, "I do not know whether you are insistent on encircling the earth any longer as a satellite."

A bit of terror disturbed the general joy.

"How can we prevent it?"

Apel laughed. "I think it will not be hard. You were unable, because you had no more power of your own. We will combine the two leather ropes which we have into one, to take in tow the wreck of the first rocket, which we do not want

to abandon up here. Then we will start the rocket motor again and return to the earth."

Hitherto Egon had been the one whom the others trusted unreservedly. But now this old man, with the strength and eyes of a young man, spoke so naturally of quite incredible things that even Egon yielded to him and forgot all doubts.

"All right then."

"Not yet, if you please, gentlemen. I and my assistant have not left our posts for twenty-four hours. First we will eat and rest. Let the earth have its second moon for eight hours more."

They ate and drank what Irene prepared on the electric plate. It was a joyous meal. Then they all went fast asleep.

Toward morning Waldemar Apel awoke, while the rest still slept. Very silently he worked on the leather ropes. Then he opened the exhaust-levers and started the ignition. The sleepers started up. A shock had awakened them.

"What is it?"

"Look out into the open."

Close before them lay the yellow gleaming disk of the earth. The bow of the rocket was directed straight toward it. Far behind them, on the long leather rope, the wreck of the first rocket was following the second.

Apel laughed. "We have left the orbital path."

Egon said in a solemn tone, "We are returning to the earth."

CHAPTER XIV.

Coming Closer.

THIS time it was the Lick Observatory that first gave the alarming news: "The orbit is becoming narrower and narrower. It seems to be the space rocket which is approaching the earth."

All the observatories were working feverishly, all the newspapers were in readiness, all the radio stations were on duty night and day.

Almost every hour there came a new report which was as startling as the explosion of a bomb:

"The space rocket."

"It is coming closer!"

"But it is not sinking straight down. It is still encircling the earth at high speed, only the circles become narrower each time."

There were conflicting views, hostile and friendly.

"It is making a flight to get publicity."

"It is going to profit by its success."

"On the contrary, its pilot is clever. The rocket has no wings, and only the energy of the swift flight can soften the shock on landing."

"Where will it land?"

"When will it finally reach the earth?"

By now it could already be plainly recognized through a telescope. It was still travelling at a terrific speed. It was making the circuit of the earth in two hours, still at a greater height than had ever been attained by an airship.

"Probably it will land in San Francisco Bay."

"Quite right, the rocket belongs to Joe Allister."

A day earlier nobody had believed in the return of the rocket. Now there was hardly anyone who doubted that the rocket could land exactly where its pilot desired.

There was only one single person who did not show the least interest: Joe Allister.

Since he was convinced of the death of his daughter, he took no more interest in the rocket. Quite the contrary. He had returned to his home, but he had shut himself in. He did not want to see or hear anything.

Waldemar Apel and Egon stood together at the window. Slowly the rocket was nearing the earth. It was going its way with mathematical exactness.

A day passed. The velocity meter mounted.

"We must be careful. We are already at the complete mercy of the earth's gravity. We must not fall."

"The second rocket in tow is making the control hard for us."

Apel reflected. "We will wait until we are near the ocean between San Francisco and the Hawaiian Islands. Then we will cut the cable. The other rocket, following the force of gravity, will go down. The ocean is very deep there. It will come up again, I think, and remain floating. Thus we shall send the earth our first greeting, while we ourselves descend in very slow circles. Egon, you guided the ascent to the moon. You may now take the controls again. I hope that we shall land in the harbor of Frisco."

He said this with a contented smile, and no one now doubted their success.

Irene wrote a few lines quickly:

"My dear Father! We are coming! We are all together, Apel, the doctor, the two reporters, and I. We shall land, according to Apel, in three days, that is Sunday forenoon, in the harbor of Frisco. Your Irene."

Egon once more put on the oxygen helmet, entered the other rocket, and laid the note on the floor. He carefully closed all the containers, secured the air-lock from the outside, and regained the second rocket by means of the rope.

He had a sorrowful feeling. Not only he but the three men felt sad, when the wreck now changed its course, descending faster and faster, while they themselves went on in their circles. This faithful wreck, to which they owed their lives, which had held out so wonderfully, they were now probably giving over to destruction.

Apel laughed. "Egon, I think you are getting sentimental again!"

But the wreck was not destroyed. It was fished out of the water, only the waves that had got in had effaced the writing of Irene's note all except the signature.

"They Are Coming!"

SUNDAY morning in San Francisco. The rocket had been encircling the earth in ever narrower course. This morning it was changing its path, no longer going about the earth but making lightning-like ever smaller circuits over America and the Pacific, ever smaller and smaller.

"There is no doubt, they will land in the harbor of Frisco."

"They will land in a few hours."

There were thousands of airplanes and dirigibles over the land. Extra trains were bringing hundreds of thousands by railway across the country. Autos and motorcycles were speeding along all the highways. Over night San Francisco had suddenly become the most populous city on earth.

The American navy was keeping the harbor barred. Hundreds of ships, decked with flags, lay at the shores with steam up, ready to start.

The harbor, the whole city—no, all America and the entire world were decorated with American and German flags. The American flags were for Joe Allister, the German for Egon.

No radio station broadcast anything but the news of the space rocket.

Orders were given: "No airship may ascend or remain up."

Everyone understood. Expectancy became great.

The airships might no longer ascend, lest they get in the current of air of the rocket.

There was a cry, a cry from millions of throats!

For the first time they saw the rocket with the naked eye, as it swept through its wide circles at lightning speed.

People shouted and screamed. They threw their arms about one another. Women became hysterical. The whistles of the ships sounded.

Joe Allister stood in his room. He wanted to see nothing and hear nothing. Intentionally he was dressed in his bathrobe. The loudspeaker of the radio kept screaming him news, in spite of him.

"They are coming—"

The Lick Observatory had plainly made out the American and German flags on board. They were not at half mast. Apparently everything was all right.

Now the rocket was floating fairly low, still at a high speed.

The noise, the frenzy of enthusiasm, all increased from second to second. The door of the Allister house was pulled open. Out rushed Joe Allister in dressing gown and slippers, without a hat. He leaped into a passing auto and panted, "To the harbor."

Somebody stood by the chauffeur and shouted to the crowd, "Make room for Joe Allister!"

"Hurrah for Joe Allister!"

"Three cheers for Joe Allister!"

The street opened, the crowd made way for him. They ran along after him shouting. There was a triumphal procession down to the harbor. He was showered with bouquets.

All San Francisco cried his name, but he heard nothing. Reaching the shore, he jumped into the white yacht.

"Full steam ahead!"

Nobody prevented him. He alone was allowed to go. At this moment, when the white yacht left the shore, while the old man clung to the rail on the bridge, it happened:

There was a roar and whistle over the heads of the millions on the shore.

Then the metal bird went over the houses, very low.

It was in the harbor, and then—

Millions held their breath. The space rocket suddenly stopped right over the middle of the harbor. It went down, vertically, fell into the water, went under, rose again, and floated.

At the same instant the entire sky was black with airplanes and airships of all kinds.

Hundreds of ships whistled their jubilation. Cannons were fired. Fireworks were sent up, right in broad day. The warships, all gaily decked with flags, formed a circle about the rocket.

Flattering Offers

A BOAT left the white yacht. In it was Joe Allister, as pale as death. He reached the rocket. There a door opened, and there was a cheer from the thousands who were on the warships.

"Hurrah for Irene Allister!"

The head of a girl, with black hair and shining eyes, had appeared in the opening. A slim young figure was gracefully climbing on to the roof of the floating rocket—

At this moment Joe Allister wept aloud.

"Hurrah for Egon Helmstätter!"

"Hurrah for All Right!"

"Hurrah for Kurt Korus!"

Last of all, as though he wished to give the glory to the others, an old man came out of the rocket.

"Hurrah for Waldemar Apel!"

The five travellers of space were on board the white yacht, while the warships carefully raised the rocket out of the water and took it in safe keeping on board the admiral's ship.

A single cry went over the entire earth. It was conveyed on invisible waves by radio.

"The space rocket is here!"

"One rocket brought help to the other in space."

"The first people are back from the moon!"

The white yacht reached the shore. Soldiers had to shut off the streets. Six persons, who had as yet hardly exchanged a word, sat in Joe Allister's car, an open car. They were all looking at the old man, who knew nothing and understood nothing except that his only child was sitting beside him and holding her arms about him.

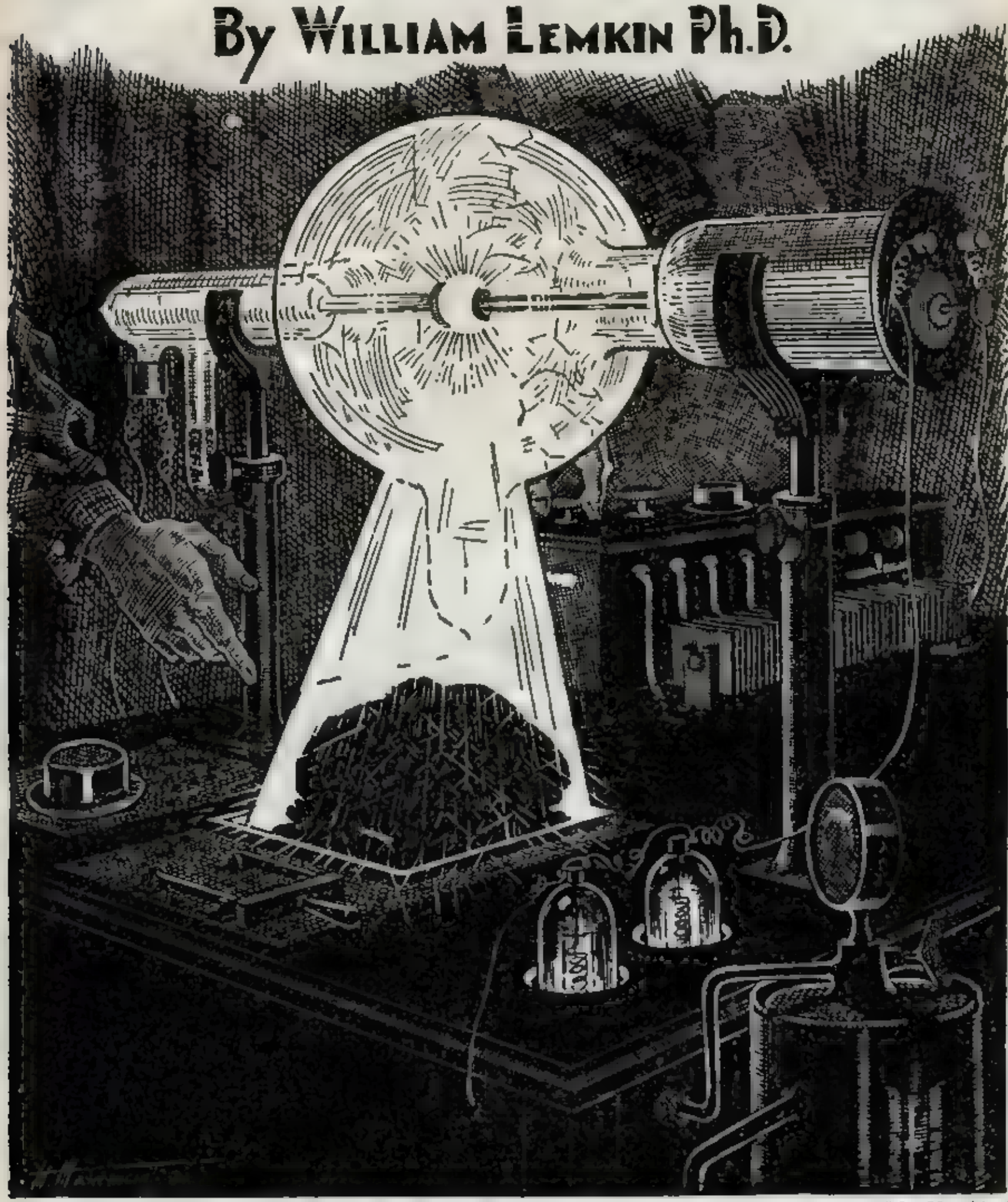
The screams and shouts became louder. The soldiers were helpless. The auto was surrounded. It could not proceed and had to stop there. In jubilation Joe Allister and the five space travellers were carried to the Allister house on the shoulders of the crowd.

Outside the crowd swayed back and forth. On this day the entire world had only six names on its lips, six names before which all the glory of other persons grew dim.

(Concluded on Page 136)

AN ATOMIC ADVENTURE

By WILLIAM LEMKIN Ph.D.



(Illustrated by Marchioni)

A sudden shaft of yellowish luminescence plunges into our midst—these devastating beams are hurtling along in ever-increasing numbers!

MY first impressions were decidedly vague and confused. I felt as if I were emerging from an infinite sleep. As I feebly struggled back into consciousness, my initial sensation was one of steady, monotonous swaying,—to and fro,—to and fro,—with a ceaseless and uniform rhythm. I was aware of nothing else, except a peculiar, cramped feeling, as if I had been fixed in an awkward position for ages and ages.

At first I could perceive nothing about me. I seemed to be plunged in an interminable sea of blackness. However, as my benumbed consciousness returned I became aware of a strange confusion of lights. Slowly, painfully, they assumed shapes and magnitude. Gradually, I began to discern a certain order and regularity about these luminous bodies. Above, below, and on all sides of me they circled and twisted, trailing after each other in rotating strings of light. Their pale yellow luminescence as they cavorted all about me, cast a grotesque glow over the entire scene. I watched in breathless fascination the endless rotations of these spheres of light. Somewhere back in the dim recesses of my mind I experienced a hazy recollection that this scene was not new to me. I had a queer sensation that I had taken part in a strikingly similar episode before, not once, but many, many times in the period of my existence. And yet it all appeared so new, so strange, so unutterably bizarre!

WILLIAM LEMKIN, Ph. D.

THERE are many people who say that with the growing complexity of our machines, the machines are acquiring an intelligence or even a soul. Tho this is perhaps a far-fetched statement, yet one who watches the operation of a complex machine which performs a number of delicate motions with super-human precision cannot help but feel that the machine has a personality of some kind.

Suppose a machine could think. What then would be its reactions to the world about it? They would perhaps be intensely interesting to us, and very instructive. Or suppose matter in general possessed consciousness and was aware of the experiences that it suffered in passing thru its various forms under the hand of man what would it have to say to us? These are all subjects full of dramatic possibilities and our author has taken one of them to construct one of the most entertaining, instructive and yet exciting stories we have yet told.

Suddenly I became conscious of a peculiar phenomenon. Amid all the circling and swinging of countless globes of light I perceived that a number of them, larger and evidently much closer than the rest, were rotating about *me*. For a moment I was seized with an uncontrollable impulse to flee. But even in the semi-conscious and befogged condition in which I still felt myself I realized that I had no means of escape. The only movement of which I found myself capable was the inexorable rhythmatic vibration that had ushered me out of the sleep of ages into the first feeble state of wakefulness.

With awe and fascination I watched the gyrating bodies of light—*my* bodies of light, I reflected, with almost a sense of pride. I lost all thought of the myriads of other luminous spheres that danced and played in flashing circles of concentric light all about me. Round and round my satellites raced,—and I soon perceived that there were, in all, six of them that swung around me as their centre. Two of these shining balls chased each other around in a circle of their own, a short distance from me. Beyond those I counted four others rotating rapidly in a circle of somewhat larger diameter, — all equally spaced and tagging after each other in a dizzy whirl. After my first sensation of alarm and anxiety had passed away I continued to observe with mounting admiration this smooth and ceaseless circling. Where was I? What were these strange lights? Why did they gyrate in this fascinating, hypnotic manner? Somehow I could not live down the feeling that this was all a perfectly natural state of affairs, that I belonged here, that I had always been here,—and that I would continue to remain here for eons to come.

Presently I turned my attention to matters outside the little sphere of activity of which I was the centre. In all that seeming chaos of lights that extended in all directions beyond my own private circle I began to make out some semblance of order and regularity. I perceived with great elation that I was not alone. In the semi-gloom that blanketed this strange scene like a dark mantle I saw that there were many other entities like myself, all swinging through space, to and fro, with that same rhythmic oscillation that characterized my own motions. And out of that bewildering confusion of pale lights I soon observed that each of these beings, like myself, was the centre of rapid rotation of luminous bodies. In every case, as far as I could see in all directions about me, each one of them possessed six glowing spheres, two in an inner

circle and four in an outer circle, concentric with the first.

And then I saw that we were all lined up in rows and columns and tiers, each following this regular, periodic vibration, with no tangible means of support, and yet held in our relative positions as by invisible bonds of some elastic substance. What a beautiful scheme, I marveled. Here indeed was a uniformity of arrangement, and a regularity of activity that surely was more than a mere accident or coincidence. Obviously, in this marvelously intricate mechanism in which I found myself, there existed some salient purpose for my presence as well as the presence of this vast assemblage of my fellow-beings, whose lot I had come to regard as similar to my own.

Bewilderment

MY revery was abruptly terminated by a rough exclamation from my left:

"Say, you, over there! Can't you look where you vibrate? Your No. 5 electron came darn close to knocking my No. 3 out of its orbit. Why don't you learn how to control your proton attractions a little better? Watching you somebody would think you never directed an outer-shell electron in your entire existence. After being a carbon atom all your life, it seems to me you ought to have acquired a little skill in handling the job!"

Electron!—proton!—outer-shell!—carbon atom! —these words burned into my consciousness. I was left gasping and bewildered. Somewhere I recalled having heard them before. At some time in my existence I felt they had been common expressions in my every-day language. But now they rang strange and hollow.

Slowly and laboriously I turned in my vibratory path so as to ascertain whence the complaint originated. I perceived that my immediate neighbor to the left was showing signs of extreme agitation. He swung to and fro with an aminous hiss, which he managed to make doubly threatening whenever our oscillations brought us closer together. Even his satellitic bodies of light glowed with a brighter sheen and whirled with increased celerity in their double circles.

I looked about timidly to see if my other neighbors around me had taken cognizance of the situation. Apparently none of them was aware of anything unusual, or else, if they had heard the raucous protest, they showed no signs of it to us. Again I turned to my belligerent fellow and managed to stammer:

"Really, sir, I-I-I'm awfully sorry that I came so near to you. You see I—that is—if you—what I mean to say—I—I don't quite understand w-w-what this is all about!"

I could perceive that my idiotic gibberish was not making things any better between us. My neighbor continued his threatening swings, accompanied by that bellicose hissing.

"Don't understand it?" he ejaculated derisively. "Why, you blooming moron, you act as though you were born yesterday. Haven't you been vibrating there as a carbon atom for the last 3500 electronic age-cycles?"

My confusion increased. I was more befuddled than ever by these strange terms and ideas, —strange and yet touching faintly some respondent chord in the dim recesses of my memory.

"Honestly sir," I managed to blurt out. "It may sound totally incredible to you, but I don't know who or what I am, where I came from or why I am here. Everything about me is new and bewildering—but I seem to have a hazy recollection of having been here before." My courage mounted as I continued. "You speak, sir, of things that carry to me only the vaguest memories. I have been asleep—unconscious—yes *dead* for a long, long period of time. Whatever I knew of my position and duties in this vast organization, I have forgotten. My former knowledge and impressions whatever they were, have been completely effaced. Nothing remains with me but the most nebulous film of associations. Everything about me now is inexplicable—unintelligible. I feel as though I have emerged from a stupor of ages —I—I—."

My warlike neighbor regarded me suspiciously and I halted in my earnest pleadings.

"You don't believe me!" I exclaimed imploringly. "You think that I'm reciting a fairy tale, don't you? Oh please sir—please—!"

"Humph!—" he growled, "It *does* listen like a pretty cock-and-bull story."

I could almost feel his burning scrutiny penetrate my being like a searing flame. "How long do you say you've been in this—this unconscious condition?"

"Truly sir, I don't know. Nor am I aware of how or why I ever entered that state."

"Well now, let me see," he mused, and I shuddered in anticipation of his words, "somehow it seems to me that you *have* been acting sort of queer as long as I have known you—and goodness knows that's a mighty long time. Never seemed to take much interest in the rest of us atoms all around you,—always moping around by yourself as if you were too high-class,—or else just plain dumb."

I winced at the gross accusations, but I dared not reply. My far-fetched tale was evidently beginning to appear more reasonable.

"During the entire period that we carbon atoms have been thrown together," he continued reflectively, "and that's somewhere in the vicinity of 3500 electronic age-cycles,—you didn't as much as give us, your closest neighbors, a single nod or a gesture of recognition. We just put you down as hopeless, and paid no attention to your fool presence."

"Unconscious, you say? Mm!—That's the first time I've ever heard of a carbon atom, or any other atom, for that matter, getting into such a condition before. The only way I can explain it is that you suffered some queer twist during the last condensation—some unheard of strain or internal warping that knocked you out for all those ages of time. As far as I know there's no record of any similar accident. And yet—there doesn't seem to be any good reason why such a state is not possible. In this marvelous existence of which we are only a minute

speck, can someone say that anything is impossible?"

I was immensely bolstered by the changed attitude of my erstwhile antagonist. Things were certainly coming my way, I reflected joyously, and now was the time to clear up in my mind those vague impressions and mystifying phenomena of which I found myself so suddenly a part.

"I am very anxious to learn, Mr.—er—Mr.—."

"CX-197-J is my atomic designation, in our present environment; if you care to know yours, it's CX-196-J. And for pity's sake please cut out that *mister*. Just call me CX-7—that will be sufficient to identify me around these parts."

"Very well, CX-7, and thank you. I am very anxious to get some information regarding this strange world all about me. You have dropped a few ideas in your remarks that are practically meaningless to me. Can you please tell me what this whole thing means?"

My evident eagerness and sincerity had softened him considerably, and he was not at all averse to discussing the matter with me in great detail.

"Well, it is very obvious," began CX-7, "that the strange twist or whatever force it may have been that was exerted on your anatomy must have had a radical effect on your memory, if you can't recall anything more than the vaguest impressions from your past existence.

"In the first place, you must bear in mind that you are a carbon atom, a minute speck of matter, similar in appearance and properties to countless billions of other carbon atoms. You have your central portion, or *nucleus*, consisting of positive charges of electricity, called *protons*, together with a number of much larger particles of negative electricity, called *electrons*. Your nucleus, however, always has an excess of *six* positive charges. Outside your nucleus is the *field*, consisting of six electrons revolving in two shells or orbits with a total of six negative charges. These balance the excess positive charges in your nucleus, so that you are, as a whole, electrically neutral. Almost all your weight is concentrated in the nucleus which is several hundred times as heavy as an orbital electron."

CHAPTER II.

Atomic Prisoners

I WAS fascinated at the revelation of how complex my internal structure really was. I glanced at my six satellites of light dancing in swift circles about me, and marveled at the beauty of the arrangement. I peered about me at the spinning electrons of my neighbors, wondering what Superior Intelligence had devised this intricate mechanism and was regulating its smooth operation.

"But we carbon atoms are not the only members of this great universe of ours," continued my neighbor. "I have heard it said by those whose knowledge cannot be questioned that there are in all ninety-two different kinds of atoms, some very abundant and others of extreme rarity. As yet I have met less than half of them, but I expect to come in contact with most of them before I'm through."

"Ninety-two!" I echoed. "And how are the other ninety-one distinguished from our own carbon atoms?"

"Easily enough," laughed CX17. "All the atoms are made up of the same 'substance' or 'material' if you wish to call it that. It is *electricity*. And all atoms are distinguished from each other by the number of electrons that revolve in the external field, which, in turn, is determined by the number of excess protons in the nucleus.

"Now you take the simplest atom of all,—the *hydrogen* atom. It has one excess proton and on revolving electron. You cannot conceive of any structure that is more elementary than that. It is the lightweight of all the atoms,—a sort of dainty fairy queen that flits about with the utmost ease and grace. Perhaps I'll be able to point out some of these atoms to you soon. I'm sure you'll enjoy meeting them. On the other hand, you take our heaviest atom, *uranium*, the super-heavyweight among us. It has no less than ninety-two electrons all revolving about the nucleus in eight distinct rings. There are *two* electrons in the first ring of the electronic field, *eight* in each of the second and third, *eighteen* in each of the fourth, fifth, sixth and seventh, and *two* in the eighth ring. Just imagine the complexity of such a ponderous atom!"

I could hardly grasp the full import of his description. Such a vast mechanism of electronic motion was far beyond my feeble powers of comprehension.

"But just one point, CX-7," I interrupted. "All about us I see nothing but our own kind,—hundreds of carbon atoms. At least, I take them all for our kind, because I can count their electrons and each has six, revolving about the nucleus in two rings. Where are all those other kinds of atoms that you tell about? Where have you met them, and how will I ever have the opportunity of seeing them?"

"Ah," my friend laughed, "we carbon atoms are grouped together here in a sort of exclusive society. We form a part of what is known as *coal*;—do you have any recollection of the name? —coal!"

My expression was one of complete blankness, and he continued:

"Well, my dear CX-6, you have much,—very much to relearn after your long lapse of memory. We members of the carbon family,—you among us, of course,—have lain here for countless ages. Once, yes many times, we were united with other atoms of all kinds, to form complex structures. These groupings are called *molecules*. Some of them consist of only two atoms. Frequently there are several hundred joined together in a most elaborate pattern to form a single molecule.

"But our associations have melted. We have lost our accompanying atoms, they have gone to seek other unions, and here we are, closely packed and patiently waiting for the time when we are delivered into a more active existence."

"Prisoners!" I gasped,—"Confined here to perpetual solitude!"

"No, no!" was my friend's reassuring comment. "Don't put it that way. We are merely held here temporarily. The period of our detention in this place is only a fleeting instant, compared to the total extent of our existence."

"Only an instant!" I expostulated. "Why, you told me a little while ago that we have been in this same spot for 3500—what was it—electronic age-cycles?"

"True enough, but do you know how old you and I and all of us are? There is no record of when we and the other ninety-one atoms came into existence. We have *always* been here, *always!* And how long do we expect to live? *Forever!*—yes, *forever!*. Ah, my dear CX-6, you look puzzled,—my tale sounds as far-fetched as yours did to me at first. But weird as it seems it is truth itself. The atoms that make up all matter *can neither be created nor destroyed.*"

Eternal Change

I COULD think of nothing appropriate to say in order to express adequately my conflict of ideas and emotions, so my neighbor went on:

"Far, far above us there exists another world, —a world of brilliant light and gorgeous colors, —a world of life and contrast. That realm is far different from this cramped and gloomy existence in which you and I now find ourselves. And in that world located above us there lives a race of beings, tremendous in their size, and powerful in their strength and capabilities. Each member of this mighty tribe is nothing but a vast bundle of atoms,—all kinds and varieties,—knit together in a most elaborate pattern. But the central figure in this intricate network is the carbon atom, such as you and I, and all our fellows about us here. We hold the supreme position in its make-up. Without us life itself would be impossible for this huge race."

"And what is the name of this clan," I asked eagerly, "this tribe that lives far above us, and depends for its very existence on us alone?"

"*Man,*" was the reply. "The *human race.* Each individual is a remarkably complicated organism and endowed with phenomenal power, principally because he has a complex central station that organizes, directs and motivates the rest of the mechanism. This central station he calls his *brain.*"

"Tell me more, CX-7," I begged, "about things in this marvelous world that is located far above us. Are there any other organized beings that exist there?"

"Many others," he replied, "thousands of different varieties, of all shapes and sizes. They are constructed on the same principle as man, but are far less complex in their make-up. He has classified them all into groups and divisions, such as bacteria, insects, plants, birds, reptiles and mammals. Each consists of millions of atoms like ourselves, hooked up with millions of other atoms from the ninety-one varieties that exist, and the entire structure is organized and coordinated to the minutest detail. Yet all of these beings are inferior to man, because of his elaborately constituted central station,—his brain."

I was anxious to learn how my friend knew so much concerning that distant and intricate world that lay above us all, and I questioned him eagerly about it.

"All of us atoms," CX-7 explained with a gesture that embraced the entire circle of our comrades around us, "have been there,—even you, although you have no recollection of it. We have been part of the structural substances of many human beings, as well as of the other forms of living organisms. Their bodily material is constantly changing. There is a continuous building up process and a breaking down process,—a constant flux and movement, in which elementary substances like ourselves are derived from the destruction of complex organizations, only to be reconstructed once more into different and more complex molecules."

"I tell you, CX-6," he continued, "the world above is one mad whirl of excitement,—a dizzy but a fascinating game. One is always on the move. There is always something new turning up. Things never have a chance to get stale. I know you'll be delighted when our time comes to join in the activities up there."

"But," I queried, "why are we confined in this gloomy prison down here, without any chance of participating in the lively doings of this other world that you have described? Have we carbon atoms committed some crime for which we have been banished to this inactive condition of —of what do you call it—coal?"

"We have been here a long time," was my neighbor's reply, "but our day will come before long. You see, CX-6, our last combination in the upper world was in the structure of some plants. We were closely tied up with many other atoms, principally hydrogen and oxygen. Then these plants ceased to function as a unified organism,—that is, they died. The complex mechanism of which we were a part fell into a state of decay and disruption. Great masses of material accumulated over us and packed us down with a pressure that increased as time went on. Our allied atoms, the hydrogen and oxygen and the others that had been joined with us to make up the molecules of the living plants began to loosen their ties. Evidently they felt no little disgruntled at this rough treatment. Perhaps they were confident that they could do better with other associations, and under different conditions. At any rate they left us,—one by one and in small groups, until we carbon atoms are now alone, or practically so. Here and there throughout our society, you can still find a few of those atoms that have not been so flighty and impatient as the rest. You will observe a number of them still maintaining their old associations with us, true to their former partners, and ready to stand by us to the very end."

My friend now proceeded to point out to me some of these loyal atoms that had cast their lot with the carbon clan down here in this out-of-the-way locality. True enough, I had, in my first hasty inspection of the scene, somehow

overlooked certain alien beings that I could now see were different from the rest. Off to one side I made out an actively vibrating nucleus with one shining electron pursuing a lone course about it. I had no difficulty in recognizing this foreign member as a hydrogen atom. There were a number of them in a group, and they seemed to be joined to the adjacent carbon atoms by some invisible bond. Peering about with whetted curiosity I discovered some distance above us and to the right a collection of atoms that appeared to have a structure not very different from our own. This new atom had two electrons swinging around in its inner circle, but its outer shell, I could make out, contained six instead of four revolving satellites. On closer inspection of the immediate vicinity I soon became aware of a goodly number of these, scattered about in pairs and in larger groups. Inquiry from my obliging friend elicited some startling information.

"These are *oxygen* atoms,—the most abundant atoms in this sphere of matter. The oxygen atom is a most active and powerful one,—always willing and eager to effect a union with other atoms. The wise men of the human race up above regard it as of vital importance in their vast organization. Notice that it differs from the carbon atom by only two electrons in the field about the nucleus. And that small difference is enough to make us two absolutely dissimilar entities. The leaders of thought among men designate the oxygen atom by the number *eight*, which they term the *atomic number*. It really tells how many free electrons revolve in the field of the atom. By the same system, you and I have an atomic number of *six*, the hydrogen atom has an atomic number of *one*, the uranium atom, *ninety-two*, and so on. A perfectly simple arrangement, isn't it?

"And yet, obvious as this classification appears to you and me, it wasn't until very recently that those great thinkers,—*scientists*, they call them up there,—discovered the truth about our structure. At first they had no idea altogether about our individual existence. They knew that a few of us occurred in the aggregate,—as carbon, iron or gold. Then came one of their wisest,—he was known as a chemist—and his name was *Dalton*. He was the first to offer the notion that all matter was composed of atoms. But he thought of an atom as a smooth, round, hard portion of carbon or oxygen or any other elementary substance. He had no conception at all of the intricate complexity of the atom. Of late, however, many advances have been made in their study of our microcosmic realm. No human being has ever seen us, because they have no instrument that is delicate enough to search into our relatively minute sphere. In spite of this handicap, however, they have succeeded in making a fairly accurate guess at the way we atoms are built.

"I have often had the good fortune to be present when some of their most renowned chemists have played around with the atoms, as though they were toys. I've seen these wise men building up complex structures consisting of hundreds of atoms,—they call the process *synthesis*. These elaborate molecules artificially created in this manner were often found to be superior to the natural substances for the particular purposes to which these scientists put them. Indeed, they have even improved upon nature, devising new configurations whose properties and uses were accurately predicted even before the substance took shape. Oh, they are a wonderful people, this race of human beings!"

"There is just one thing," I interjected, "that I don't quite understand. With our existences separated by so wide a gulf,—ours being so minutely small, and theirs so enormously large,—how is it possible for you to have such detailed information about their lives, the work they do and the thoughts they think?"

"That's easy enough," laughed CX-7. "Although we are so tiny in comparison to them, we have a degree of intelligence of which they haven't the remotest idea. They do not regard us as sentient, thinking beings. What a surprise they would receive, were they to learn that our intellectual capabilities far surpass anything they ever dreamed possible in us. It is true that we have as yet found no means of entering into communication with them, but we can follow their work and ideas, and read their innermost thoughts with ease. And some day, my dear CX-6, you too will acquire that experience and degree of intelligence which we all possess. Once you get out of here and mingle freely with the other atoms of our world you will acquire ideas and aptitudes which will place you on a par with all the rest of us. Then you will find yourself able to understand everything that goes on in your existence. The world you live in will be an open book to you."

I thanked my friendly informant for his lucid explanation of this elaborate and bewildering scheme of things. With great anticipation I looked forward to the time when we should all be liberated from this cramped dungeon. Then my round of adventures would begin. I thrilled at the mere thought of the unbridled freedom and lack of restraint that I would enjoy.

CHAPTER III.

A Terrible Experience

AGAIN I fell to marveling at our unusual position in this nether region. It was while turning over and over in my mind the mass of queer facts which I had gleaned from CX-7 that I again became aware of my strange oscillatory motion. Somehow after the first shock of my reawakening I seemed to have become oblivious to this constant to-and-fro movement which all my comrades as well as I possessed. I observed that many of them swung back and forth in groups, particularly when joined up with some alien atoms. Hastening to inquire from my obliging friend the reason for this constant commotion, I added another important fact to my ever-increasing fund of information.

"All matter," explained CX-7, "is in a ceaseless state of vibration. Each particle, large or small, simple or complex, possesses this oscilla-

tory motion to a greater or less degree, depending upon outside circumstances. At times the rate of vibration is relatively slow. At others it is so rapid as to threaten the complete disruption of the structure. To the human being up there this motion manifests itself in the form of a sense reaction which they term *heat*. When all vibratory motion ceases, these beings refer to the condition as the *absence of all heat,—they call it the absolute zero.*"

"Have *you* ever been in that state?" I asked eagerly. "What are one's sensations when all vibration stops?"

"I've been pretty close to the point they call the absolute zero," was my friend's answer, "but I've never had the opportunity, or perhaps the misfortune, of hitting the very bottom of the scale." He laughed softly to himself. "You can take my word for it that the sensations are not at all pleasant. I happened to be in a group of molecules being experimented upon by one of the great scientists of the human race,—they classify him as a *physicist*. He certainly put us through our paces in a most horrible fashion. First he crowded us together under a crushing force until we almost cried out in our pain. Then he unexpectedly released the tremendous pressure on a few of us, and we were tumbled about in such a frightfully precipitous manner, that it was the greatest miracle we weren't all smashed up in the terrible confusion.

"Evidently this scientist knew just what he was doing, for he repeated the process over and over again, until he had reduced a handful of us to a state of almost complete exhaustion. We now scarcely experienced any vibratory movement at all. Numb, almost motionless and hardly aware of what was going on about us, we clung to each other grimly, wondering when the next instant would be our last. But even though I felt myself drifting along in a hazy, semi-conscious state, seemingly hanging on the very brink of an imminent and awful oblivion, my courage was bolstered by one singly thought: Matter is indestructible! Atoms cannot be created nor wiped out of existence! The most fundamental precept of these wise men of the human race is the Law of Conservation of Matter. Atoms can be united in groups or the partnerships dissolved. New and complex molecules may be erected and subsequently broken up. But when we get down to the very bottom of things there is a certain sum total of matter in the universe which has always been the same, and will always remain the same,—even to eternity.

"I clung to this idea with a dogged tenacity even when our prospects of ever coming out alive from this fix were dimmest. And presently things took a turn for the better. Apparently the scientist was finished with his experiment,—perhaps he found himself unable to get the desired results,—we never knew what the determining factor was. At any rate our tiny group of benumbed particles suddenly began to experience the glow of life returning. We commenced our oscillations once more, slowly and painfully at first, but with increased vigor as we found our strength returning. Soon we were vibrating as cheerfully as ever again, none the worst for our harrowing experiences,—with perhaps the exception of a haunting memory."

New Activity

DOWN here in our coal kingdom the carbon atoms had a system of time measurement that was based on the rotation of the electrons about the nucleus. It was a rather involved system, and I will frankly confess that I never truly mastered its intricacies. However, one thing I came to know very definitely,—that an "electronic age-cycle" was an exceedingly long stretch of time.

As these recurring cycles succeeded each other, I became more familiar with my surroundings, and more intimate with my immediate neighbors. They were all willing to answer any questions that I might want to ask regarding some point in our strange existence about which I was unfamiliar. Often they told me of things and happenings in the outside world of activity that supplemented and enlarged the mass of knowledge that I had derived from my first conversations with CX-7. But he always remained my closest and dearest comrade. To him I always turned with my most perplexing questions, for I was certain of obtaining fullest explanations. His travels had been varied and adventurious. His supply of facts was enormous,—well-nigh limitless.

Often CX-7 spoke of another vast universe beyond even that of the humans above us. He told me of our own relatively small portion of matter called the *earth*,—although to my primitive intelligence its size was almost beyond comprehension. He described the movements of this body,—he called it a *planet*,—at an enormously huge distance from a central body of matter,—termed the *sun*. He told of the planet's periodic revolution about this great centre, as well as its own rotational motion about an imaginary axis. He mentioned other planets by name,—similar bodies of matter, some larger and some smaller than the earth, which followed their own orbits about the sun.

"So much like our own little selves," he said, "with our central nucleus and revolving electrons, but tremendously,—yes infinitely larger."

And beyond this sun-group of planets,—he referred to it as the *solar system*,—there lay even larger systems, reaching out into infinite space,—until the very thought of such never-ending vastness sent my poor mind reeling crazily.

A period of somewhat more than 17,000 electronic age-cycles had now gone by since my reawakening. Things moved along in our little realm with about the same cadence as ever. To tell the truth, I was beginning to feel terribly cramped in my meagre location. Every age-cycle was like every other age-cycle. I felt the shadow of drab monotony creeping into my existence. When I ventured to voice my feelings to my neighboring atoms they smilingly reassured me of better days in the near future.

"Don't you worry, little carbon atom," said CX-7 with firm assurance. "Very soon we're all going to be delivered from this monotonous life.

Just be patient. And once you get into the open freedom of the world above your existence will be such a mad whirl of life and action that you will readily lose all recollection of these dark ages of imprisonment in coal."

True enough, the time suddenly came when I began to sense the approach of unusual events. I became aware of queer rumblings that seemed to come to us first from above and then from all sides. Faint and distant at the start, these indications of strange activities began to get stronger and more pronounced as time went on. It appeared to me as though there was extensive drilling and hammering going on all about us. Occasionally we felt strong concussions, and violent spasms of vibration were transmitted from one atom to the next until we quivered to our very last electron. These were ominous times for me;—I sensed the dawn of a new existence, and yet I dreaded the sudden transition from a dormant life to one of intense commotion and activity.

"They, — the humans above, — have commenced mining operations," announced CX-7 with glee. "It won't be long now before they reach our stratum,—and *then*,—." It was evident from his significant pause that he looked forward to the liberation with the highest anticipation.

I felt the rumbling and knocking coming louder and closer. Presently it became impossible for us to communicate with each other on account of the din and commotion. Then suddenly there came a cataclysmic upheaval. I felt myself myself being ripped from my position and thrown about in the wildest confusion. My electrons rolled crazily in their orbits, twisting and straining until I thought they would momentarily break away and be lost in the chaos. When I recovered my senses somewhat, I discovered to my great joy that I was not alone, as I had at first thought. I found myself in a group of my fellow atoms, who had apparently been separated from the rest. But the most extra-ordinary thing about the new state of affairs was that we were no longer in almost total darkness. A strong, white light now bathed our little group and reflected through our skeleton-like structure with blinding brilliance.

I turned to find CX-7 still at my side, enjoying my startled expression with unconcealed merriment.

"Frightened, aren't you?" he laughed. "Feels like the end of the world, doesn't it? Nothing more terrible has happened than that we have been blasted out of our underground prison and carried up into the sunlight. Yes, *sunlight*," he repeated in answer to my expression of doubt. "That's the natural form of illumination in this upper world. Rather uncomfortably dazzling, isn't it, after so many ages in the semi-darkness of our coal existence."

CHAPTER IV.

A Fascinating World

THEN followed a period of considerable excitement and commotion, during which our small group of carbon atoms was alternately tumbling about roughly, and lying inactive. At times the brilliant sunlight, to which I had now become accustomed, was cut off from us, and we were again enshrouded in sombre gloom, punctuated only by the faint luminescence of our revolving electrons. Fortunately, these periods of half-darkness were not so frequent, and I learned to enjoy the warming embrace of the sunlight rays. In response to the stimulus I found myself vibrating more rapidly in my to-and-fro path, and I was surprised and no little delighted that all my fellow atoms were doing likewise. There appeared to be a general increase of activity in the group since we were brought forth from our nether home.

"Remember," explained CX-7, "what I told you some time ago about *heat*. It is a form of energy that is associated with molecular and atomic agitation. The effect of the sun's rays upon us is to make us vibrate faster. This increase in our activity manifests itself to human beings through their sense organs as *warmth*. Isn't this new life exhilarating?"

I agreed enthusiastically and turned to observe more of the wonders in my novel surroundings. I presently became aware of another strange phenomenon,—something I had never met with in my previous existence. As we lay grouped together in the bright sunlight I noticed strange masses passing by. They came singly and in bunches, some flitting by lazily, others rushing along in a mad hurry.

CX-7 anticipated my question, and answered it before I could put it into words:

"We are now out in the *open air*. This substance, air, is something totally different from our own medium. It is made up of several kinds of atoms and molecules, but the interesting part of it is that these particles are not fixed in semi-rigid positions as we carbon atoms are. Air is known in this realm as a *gas*, while coal is an example of *a solid*. In a gas the individual particles are relatively far apart, and are therefore able to move about with utmost freedom. We carbon atoms are packed together so tightly that there is no chance of our doing much in the ways of motion. There is another state in which matter exists. This is called the *liquid* state, and here the particles of matter are not so distantly separated that they can move about with no restraint, nor are they so close together that they give the substance rigidity. Theirs is a happy medium. They maintain their relative distances, but they are able to slide over each other with the utmost smoothness and facility."

Just then one of the gas bodies swung close by our position. So near did it brush that one of my outer electrons came very near being knocked out of its orbit. Its passage was rather leisurely, and in the interval of time that it was close to me I had a good opportunity to observe its peculiar structure. It certainly was like nothing that I had ever seen before. Two atoms were fused together, not touching, but held apart a short distance by what appeared to be some strong, yet unseen force. On closer scrutiny I thought I recognized them as oxygen atoms, for I had seen similar atoms down in our coal stra-

tum. Yes, to be sure, they were oxygen atoms, for I could count eight electrons circling about each.

But no!—Another double atom swept by and I observed that it was made up of two slightly smaller units, more nearly approaching my own size. I could make out seven electrons in the field of each atom. This was a substance with which I was yet unacquainted. Another oxygen pair, and then two or three more of the new variety. I began to see that the oxygen groups were greatly outnumbered by the others.

The next diatomic mass that spun by,—it happened to be of the oxygen class,—I studied more closely, and I found a complexity in its movement that was bewildering. It seemed to have a number of different motions incorporated in its make-up. In the first place the two atoms, separated from each other by a space, were tumbling over each in the most comical fashion. As they tumbled, they dragged along with them their revolving electrons, which maintained their steady gyrations in two distinct orbits about each nucleus. In addition, this strange couplet maintained an independent vibration induced by the energy from the sunlight. And lastly, it had a propulsive motion that carried it close to me and then beyond into the maze of particles above me, until it was lost from sight. One can better imagine than describe the composite whole of all these independent movements, the whirling, zig-zagging dizzy flight of this double creature.

"More explaining is now in order," smiled my ever-willing CX-7. "These oxygen atoms that you see teamed up in pairs represent the normal state of the element in the gas form. It seems that oxygen atoms are either unable or unwilling to roam about singly. Something in them, some indefinable urge, impels them to join up in this manner, and travel in pairs. Perhaps it is some kind of social instinct,—or else just plain lonesomeness. At any rate, that is how you will always find them in the air,—circulating by twos, —with the union between the partners so firm that nothing will sever it until the time comes for the element to enter into combination with other atoms in the course of various chemical actions. Strange as it seems, this fusing of two oxygen *atoms* results in the formation of what is called an oxygen *molecule*, which you can see is considerably less complex than most of the molecules that are built up from different kinds of atoms.

"But you notice, CX-6, that the oxygen molecules are greatly outnumbered by another kind of molecule; in fact the actual proportion is five to one. These numerous ones are molecules of *nitrogen*, another of the gaseous elements. Here also, the atoms always travel in pairs. In fact, the same may be said of all such elements—. But wait, I'm mistaken, I almost forgot about *argon*, the lazy one.—Look!—do you see that large individual over there? He has eighteen electrons revolving in three rings. Notice how slowly and haughtily he moves, as if he had not a single concern in the world. And he's all by himself,—wandering about aimlessly and alone. He has never been known to hook up with any other atom, either his own kind or another. No one knows what his mission in life is,—I daresay not even he himself. He has a reputation for sluggishness and general inactivity that is hard to equal anywhere. Fortunately there is only a small number of his particular type present in the air, so that you need have no worry about his presence here.

"Now there is just one more member of this air community," continued CX-7, "that you ought to meet, one that I am sure will be of most interest to you. Let me see if I can point him out to you. — Yes—there is one now, over to the right, just sliding in between those two nitrogen molecules."

With a little difficulty I was able to single out the object of my friend's attention. I was startled to recognize as its central unit a carbon atom like myself. In some mysterious way he had managed to connect up with a pair of oxygen atoms, whom he held firmly, one on each side. The entire structure, with the maze of whirling electrons, was tumbling and skipping about in a most hilarious fashion.

"Carbon dioxide!" my neighbor explained. "Usually the first step in the cycle of change from our present position. Compared to the other constituents in the air in the matter of numbers this molecule is almost out of sight. Only about one in every 4000 is a carbon dioxide molecule. But important? There isn't a single component, with the possible exception of oxygen, whose function in life is of more vital necessity. Wait, CX-6, until you reach that stage in your activities. You'll soon come to realize what an essential factor you are in this vast scheme of things."

A Fiery Inferno

I COULD have remained there and watched this kaleidoscopic parade of molecules forever, but unfortunately I was not the master of my destiny. Some superior unseen force was in control, and I as well as all my companion carbon atoms had no choice but to obey. I felt our coalescing group being tumbled and rattled about in a most unceremonious manner. One moment we would feel ourselves moving along smoothly. The next instant we were hoisted aloft, up, up until it seemed as though there would be no stop. Then suddenly we were plunged down through a dizzy descent until we were brought up at something firm and unyielding with a crash that almost tore our electrons from their paths. This treatment was repeated any number of times, until I wondered if we were going to spend the remainder of our existence in such a manner.

At last we seemed to come to rest for good. We were no longer in the brilliant sunshine of which I had become so inordinately fond. Instead there was a mantle of gloom all about us that was strangely reminiscent of our underground coal habitation. Were we, I thought, again to be imprisoned in that horrible place for ages upon ages of time? My comrade, CX-7, at my side throughout all the vicissitudes of our hectic adventures, hastened to allay my apprehensions:

"Ssah!—Nothing to worry about my dear CX-6,—nothing to be afraid of. We're now several steps closer to our final delivery. This place in which you find yourself at present is a *coal-bin*, belonging to some human, and located down in the lower part of his dwelling. Here we are stored,—countless billions of us,—but not for long. Soon we shall be called upon to be of service to this man, and in doing so, we will gain our freedom. We shall be forced to enter into chemical combination with other atoms, thus producing heat energy to warm his home. The price we are paid for performing this duty is the most cherished of all,—our liberty!"

My friend's prophecy was fulfilled sooner than I expected. But things had been happening with such bewildering suddenness that I was but mildly surprised when I felt myself being lifted bodily, along with the other members of our little coal party. We were carried a short distance and then suddenly dropped into a veritable inferno.

All my previous adventures were mere play compared to my present predicament. Below me was a seething turmoil of activity. I observed countless other carbon atoms vibrating with such extreme agitation as to emit a fiery red glow. There were hundreds of them hissing and sputtering in their mad excitement. I felt myself bombarded by flying missiles on all sides. Under the contagious influence of this confusion I too soon joined the hubub, and presently I was contributing my own healthy share to swell the universal pandemonium.

Suddenly, in the midst of the general chaos, there came from below a mad rush of oxygen molecules. In and out through the groups of pulsating carbon atoms they plowed their way, rolling and tumbling over each other in that peculiar fashion which I had observed up in the sunlight only a short time ago.

And then I perceived an extraordinary phenomenon. Our staunch carbon ranks were being disintegrated. With almost fiendish abandon each pair of oxygen atoms seized hold of the nearest carbon atom and fairly yanked him out of his spot,—electrons and all. Even in this feverish rush and excitement I could see that my comrades were not averse to this treatment. In fact, each one seemed to reach forward as the captivating oxygen couplet approached, and once the contact was made, he kicked and tugged at the invisible bonds that fastened him to the rest of us, as though tired of our company, and anxious to be off on new adventures.

So this was the grand delivery, I mused. I wondered vaguely if it hurt. I wondered how I would act when my turn came. Rapidly the onslaught of oxygen molecules was ripping vast holes in our structure. Our front melted away and disappeared as each wave came tearing up from below. This was war, destruction,—but strangely welcome to us nevertheless. What an anomaly!

My companion CX-7 remained staunchly at my side, whispering words of encouragement as the lurid action continued. Then with a whirlwind suddenness we found ourselves in the very thickest of the fray. A stalwart oxygen molecule, all aglow from its passage through the fiery mass below us, pounced upon CX-7, and he was summarily torn from his moorings. I heard his last cry of cheer to me, saw his final gesture of farewell, and then he soared upward in his new company, and was swallowed up in the furious storm of recently created molecules rushing on into the open air.

I turned to find that I was next. Already my would-be captors, or companions, or what shall I call them?—had seized me with a strange, unseen force, and were pulling me away from my remaining comrades. To my vast astonishment I felt some sort of unconscious urge to join this strange couple,—an indefinable pull or attraction toward them, the like of which I had never experienced before. I yielded readily, and with lazy abandon I permitted myself to be drawn away from my resting place and born aloft in the ascending current.

For a time I was conscious of nothing except that steady rush upward. After the comparative inaction of my coal existence, I was drunk with the giddy exhilaration of the flight,—swift and unrestrained flight. On all side I could sense the same gay enthusiasm. All about me the newly created carbon dioxide molecules,—And I now realized with a pleasant shock that I was one of them too,—bounced and skidded over each other as if to give expression to this feeling of exultation.

The dark passageway through which we were flying came to an abrupt end, and I found myself, with my companion oxygen atoms, sailing along in dazzling sunlight once more. It was only then that I became aware of the full significance of my newly-born freedom, and I almost shouted aloud in my exuberance.

Out in the open air I found a decided change of conditions. The carbon dioxide molecules, all terrifically agitated from the violent reaction that had taken place in the flaming volcano below had an opportunity to cool off and assume a state of relative composure. Once away from the confines of the place where we had been generated, we scattered in all directions, mingling with vast crowds of oxygen and nitrogen molecules that surged all about us. Soon I lost sight of the rest of our own kind and found myself all alone, with my two companions, swamped in a sea of gas molecules. As in my former experience with air, I found the greater major of them to be nitrogen.

It was natural that, after becoming accustomed to my new surroundings and changed mode of life, I should scrape up an acquaintance with my recently acquired companions. They weren't bad-looking fellows at all,—one on each side of me, forming a sort of protective barrier as though to shield me from any injury. I marveled at how closely they resembled me in structure. And yet what a difference those two additional electrons in their outer ring made! All the difference between a gay, vaporous oxygen atom flying about in the air and a cold, hard inactive carbon atom sunk deep below ground!

CHAPTER V.

New Companions

"WELL, Carbon," began my companion on the right, "let's get acquainted! I'm Oxy-one, and my pal over on the other side is Oxy-two. How do you like us as your new traveling partners? I guess if not for us, your traveling would be very limited indeed."

"There now!" rejoined the other oxygen atom, "bragging again, aren't you!" And then turning to me apologetically he added: "Don't pay any attention to him. He's inclined to be a little chesty about his own importance."

It was not long before I had explained to my partners that I wasn't an ordinary carbon atom, making the same rounds over and over again,—that this was my first trip as far as my present recollections served me. At first they were inclined to doubt my story, but my evident sincerity finally won them over. They listened attentively as I recounted my awakening from the sleep of ages down in the coal region, of my complete lapse of memory in regard to my former experiences. I told them of my companion atom, CX-7, about his lengthy explanations of the world we live in, its flux and change, its human, plant and animal inhabitants, and of the part we all play in the operation of this vast existence.

"So you see, my friends," I concluded earnestly, "it is just as though I had been newly created. This trip of adventure on which we are now launched is to all purposes my first,—if I have ever taken any others I cannot remember them. And, except for what CX-7 told me about the outside world, I don't know what lies ahead of me."

My partners agreed, laughingly, that I was the queerest carbon atom with which they had ever been hooked up,—surely the greenest of all they had met,—and they admitted having associated with a good number of my family. With perfect good nature, however, they expressed their willingness to initiate me into the gay and open existence of this atmospheric life.

"Tell me about yourselves," I asked. "From what CX-7 explained to me I received the impression that you are of very great importance up here."

"Without trying to be boastful," smiled Oxy-two, "I daresay we are of the *greatest* importance,—at least to all living or organic things on earth. In the first place, we are the most numerous of all the atoms. About fifty per cent of all matter,—at least in that portion of the universe that is called earth,—is oxygen. We are present, not only in the air, as the free element, but also combined with other atoms in liquids, such as water, and in all kinds of solids that are found on the earth's surface and deep below the surface too. We are extremely active chemically, by which I mean that we will combine readily with practically all of the existing atoms. That's more than any other element can say about itself, I don't care which one you mention. And the fact that we cannot make a perfect 100 per cent score in the matter of combination is no fault of ours. We have made repeated advances toward the four or five stubborn atoms that refuse to unite with us, but they are absolutely unapproachable. Lazy, indifferent, good-for-nothing, ambitionless, that's what they are. They show no prejudices either, for they shun *all* close company. I guess you've met *argon*, ringleader of this unsociable clique. He and the few atoms like him float around here aimlessly through the air, with not a care or a sensible interest in this life. I'm sure you'll meet them all sooner or later."

"Our mission here," added the second oxygen atom, "is one on which all life upon this planet depends. We carry on the process of *oxidation* in plants, animals and human beings. By this process heat is produced, as well as the energy that enables the organism to live and do work. It is through our agency that all combustible things burn. In fact, the late turmoil in which we took part,—I don't think you can forget it so easily, can you?—was nothing more than a very rapid oxidation of the members of your carbon tribe. Man uses this process to heat his dwelling during the cold seasons of the earthly year. He burns fuel to generate power so that he could light his home when the sun is not sending down rays upon his side of the earth. He employs this power also to run great engines, to move huge masses, and to perform a thousand miracles of strength and skill.

"Notice how few we oxygen molecules are in the air, when compared with the great numbers of those other molecules,—nitrogen. About one particle in every five is a member of our family. Do you know why? It's just a device to keep us in check. If we were permitted to accumulate by ourselves we would exert so much combined power as to cause an awful conflagration. There is practically nothing that would withstand our strong appeal to unite with us, and once such a general action started no power on earth could stop it. It has therefore been found necessary to mix large numbers of practically inert nitrogen molecules. They serve to dilute the oxygen molecules, to diminish our strength, and thus to minimize the danger of our running amuck."

Secretly I felt myself flattered to be thrown into such fiery company. There was a thrill at the thought of so much vigor and energy being associated with these harmless looking atoms that clung on each side of me. Here, I said to myself, was all romance and adventure for which I had been aching.

A Scandalous Idea

THE three of us got along famously. They supplied me with a great deal of information about the world and the living inhabitants of all kinds that peopled it, both on the surface, in the air, and in the vast stretches of liquid matter which they called *oceans*. I, in turn, enlightened them considerably on what I knew of atomic existence in the only region with which I was at present familiar,—the depths of the earth. Apparently it had been many ages since they had last had the opportunity of living in the nether regions so that their notions in regard to them were very vague. I did not know much, but I made a fairly creditable effort to set them aright

on conditions in the shadowy, yet fascinating and romantic land of coal.

The longer we were together in our own private little molecule, the more I wondered and marveled at our basic atomic structure. From the very start, when we first joined forces down there in that fiery furnace, I was struck by our great similarity of make-up.

"Isn't it queer," I once remarked to Oxy-two, "how much alike we are, and yet how vastly different? Now my nucleus is practically the same as yours. We are both made of the same substance,—the thing that humans call electricity. We both have two rings of electrons revolving in orbits that are about alike in size. There's just that tiny difference you have *eight* satellites, and I have only *six*. And yet that small difference places us worlds apart in appearance, properties, behavior and chemical action. That small difference makes you oxygen and me carbon."

"True enough," echoed Oxy-two seriously,—"you are carbon and I am oxygen,—and all because of that apparently trifling matter of electrons. Did you ever realize, my dear atom, that even a difference of *one* electron in our rotational fields is enough to create just as fundamental a disparity as exists between you and me? Surely you must have met our good friend *nitrogen*. His position is right between carbon and oxygen in this classification. He possesses *seven* electrons, and his atomic number is *seven*. Nevertheless he resembles *me* no more than he resembles *you*. He is just as far-removed from us in ideas and behavior as he is from the remaining eighty-nine members of our atomic world."

"It just occurred to me," I remarked,—"but no!—That's a terribly silly notion." I laughed half to myself, and turned to my oxygen associates. "Well, maybe it's not such a foolish thought after all. What would happen if you were to lose one electron from your outer shell? Or, suppose I were to gain one electron. That would give us each seven,—exactly the same number as nitrogen has. Would you and I change into atoms of nitrogen?"

I looked inquiringly from one to the other of my companions, and I observed that they were deeply puzzled by this apparently simple supposition.

"I never *did* look at it that way," mused Oxy-two thoughtfully,"—although I don't see any other answer,—yes—I guess we *would* become nitrogen atoms, wouldn't we partner?" turning to the other oxygen particle.

"Not unless we were subjected to a corresponding alteration in our nucleus structure," was Oxy-one's guarded reply. "Remember, carbon atom, your constitution depends upon a perfect balance of opposing forces, positive and negative charges of electricity. In order for this change which you suggest to be effected you must add a positively charged proton to your nucleus, to compensate for the addition of a negatively charged electron to your outer ring. Otherwise you would be electrically unbalanced. Likewise, if I lose an electron from my field, I must also relinquish a proton from my nucleus."

"And such changes," added Oxy-two, "are unheard of,—the idea is positively *scandalous!* To think of a self-respecting atom ever stepping out of its own designated station in life and trying to be somebody else! Why it's—preposterous!"

"I merely thought," was my hasty rejoinder, "that such alterations are not beyond the realm of possibility. With atoms and molecules always moving about in vast crowds, bumping, scraping, colliding with each other, doesn't it seem likely that one of them might accidently have an outside electron knocked off? Particularly the big fellows,—those with the high atomic numbers, and with six or seven electronic rings, containing eighty or ninety electrons in their field. I cannot see how an atom can possibly keep track of eighty or more whirling electrons all at the same time. Just suppose that I were, let say, an atom of uranium. It seems to me that, if I should, as a result of some extra-violent collision, accidently lose one or two electrons from the out-lying districts of my structure, I would never even miss them."

"Well," retorted Oxy-one, "as far as my knowledge goes, it has never happened,—and remember that atoms and molecules have been colliding from the very dimmest beginnings of time. Atoms have always behaved in a perfectly sane and conventional manner. Their internal structures have always been regarded as permanent and unchanging. There is no case on record where a carbon atom has ever been anything but a carbon atom, nor an oxygen atom anything but an oxygen atom."

"Hold on a moment!" interrupted Oxy-two hastily. "It seems to me I have a vague recollection of certain rumors that traveled around a long time ago concerning the unusual behavior of one of the atoms. Something about losing electrons and changing into simpler atoms. It was all hearsay, yet the reports circulated for a long period. Now let me see,—what element was that, anyway?—one of the heavier substances, I'm positive,—why,—to be sure!—wasn't it that rare element *radium?*"

"Now that you mention it," rejoined Oxy-one thoughtfully, "I *do* remember some talk about radium. They say that those atoms persisted in breaking the unwritten law of atomic integrity. But everything was rumor,—nothing definite,—no real first-hand information about this alleged phenomenon. I'm sure the stories were all just a lot of slick publicity material, probably intended to put this extremely rare atom prominently in the public eye. That's the trouble with those fourth rate elements. They're jealous of our great abundance and our vast importance in this scheme of things. Some of them are always trying to edge in a little and capture for themselves an unearned position of popular favor. I never paid much attention to those far-fetched tales about radium, and no one else did either, I'm certain."

In spite of the evident scepticism of my friends, I was not so easily dissuaded from my pet belief. The idea seemed entirely logical to me, and I could not see why such a phenomenal occurrence as losing electrons was so hopelessly impossible. And furthermore, what about those reports in re-

gard to the strange action of this rare element radium? Surely, rumors do not persist without some semblance of foundation.

I pictured to myself how delightful it would be if an atom were able, at will, to slice off or take on electrons. What a huge field of romance lay ahead of such a fortunate individual! Now, one kind of atom,—at another time some different kind!—new experiences and new thrills at every turn and every change!—no longer restructed to the humdrum life of a carbon atom, or a hydrogen atom!—the whole vast gamut of atomic adventure would be at one's command! Indeed a thought to fire one's imagination.

I cannot explain by what remarkable coincidence I was destined to have my little experience with radium so soon after our conversation on the subject of atomic disintegration. Surely, the incident could not have occurred at a more opportune time, for I was worked up to the highest pitch of enthusiasm regarding the possibilities of such changes.

CHAPTER VI.

Radium,—The Mystery

OUR little carbon dioxide molecule had now been floating about in the air for a considerable period of time, without anything more thrilling than the continuous buffeting by the ocean of oxygen and nitrogen molecules. I was beginning to entertain grave doubts as to whether this new life was really so terribly exciting. To be sure we were in a constant change and flux, never resting, always in motion,—yet, one tires of that too, after an interminable stretch of the same purposeless roving. Conversation among the three members of our little unit began to lag noticeably. There was very little new to talk about, so that for the most part, we remained speechless.

It was only a short time after our talk about radium, when, during the course of our monotonous drifting, I suddenly became aware of a mysterious change. There was some sort of restless uneasiness among the atmospheric molecules that flew by. They appeared to be more agitated,—in a greater hurry,—and yet I could see that it wasn't associated with any increase in vibration that I knew accompanies a rise in temperature. And yet I could feel that our own molecule seemed to be bowing to the same mysterious influence, for, unconsciously we found ourselves thrilled and activated by an uncontrollable force.

Suddenly there was a startled exclamation from Oxy-two.

"Did you see that?" he gasped. "It flew right by us, off to the left!—something round and luminous,—and what speed!—just like a flash!"

"There's another!" I blurted out in high excitement, "and another—two more—why there's a whole stream of them!"

"Electrons!" whispered Oxy-one in awe. *"Free electrons!*—more and more of them! And they're not revolving about a nucleus,—just traveling by themselves!—And did you ever see such speed?"

These detached luminous balls of negative electricity, identical with the electrons that circled so obediently around our own nuclei, were now flying past us in hords and droves. There were so many thousands of them and their velocity was so tremendous that they created the impression of continuous luminous streaks tearing through our world. How many air molecules were hit, I don't know. What damage was wrought by this cloud of flying missiles, I cannot tell. By some miraculous fate we were spared any disastrous collision.

In the face of this fiery bombardment, when all else was fleeing panic stricken before the strange onslaught, I suddenly conceived the idea of edging toward the centre of the disturbance to find out what was the cause. I had no difficulty in winning my companions over to my scheme. Adjacent air molecules counciled us against the foolhardiness of flying blindly into danger.

"It's radium!" cried a nearby nitrogen molecule stopping in his precipitous flight with a breathless message of warning. "The rare element, radium! His atoms are breaking up! There are some terrible things happening over there in the centre of that upheaval. Keep away! It's sheer suicide to approach!"

"So that is what's causing all the rumpus," I shouted to my partners. "Radium! All the more reason for investigating. Come on, Oxy-one!—Oxy-two!—let's go!"

As we drew closer to the spot from which the seething thousands of electrons appeared to be flying, we perceived a new kind of emanation in the form of atomic particles. They also came in streams, but they were larger, and traveled at a much slower speed than the electrons. I could see that they were atoms of some strange sort, for each consisted of a central nucleus, like my own, only much smaller, with two electrons circling around it in a single orbit. Oxy-one promptly recognized them as *helium* atoms,—one of the rare and inert gases associated with argon in the atmosphere.

In all the turmoil and excitement we managed to corner one of the rapidly moving helium atoms. Taking advantage of the momentary shelter afforded by a crowd of air molecules that shielded us somewhat from the steady electronic bombardment, we pressed him for information about the radium disintegration.

"Let me go!" he pleaded. "I'm in a terrible hurry! Yes—that's radium in there,—my own parent element,—breaking up—decomposing—exploding! I'm a new atom—just born—I'm a product of atomic disintegration!—and I'm in a terrible rush!—please, please let me go!"

We permitted him to slip by, and he soon disappeared in a stream of his fellows all hastening away from the centre of the storm. As we approached closer, we found signs of greater, more violent agitation. There was a raging bubbling chaos of atoms, molecules and electrons, and our own solitary carbon dioxide molecule was pummeled and driven about until we were bewildered and almost overcome.

Then suddenly we burst in upon the very centre of commotion. In the mad blast of electrons that shot out at us we were almost swept from

our position, but we managed to hang on and view the appalling drama of atomic disintegration.

The middle of the stage was occupied by a fiery clump of matter, consisting of masses of seething protons and electrons, the like of which I had never witnessed. I could see that the radium atoms, huge and ponderous though they were, milled about in the throes of a violent commotion. There was a steady and deafening staccato of explosions, and as the hundreds of radium atoms burst apart there issued streams of fiery electrons and newly created helium atoms, flying off into space in all directions. Another emanation sprang away from the disrupting radium atoms, but its speed was so terrific that I was unable to obtain any clear image of it. The residual portions of the old radium atoms continued to explode at intervals, sending off repeated showers of electrons. Further and further the dramatic breaking-down process continued, until, after a series of newly formed and short-lived atoms had come and gone, one form remained. Dropping away from the violent activity of the rest, these remaining atoms collected in a corner, sizzling and trembling from their feverish evolution.

"Lead atoms!" whispered Oxy-two, in an awe-stricken tone, "the end-product of the radium decomposition!"

We remained in our position as long as we dared, but eventually it became entirely too hazardous for us to maintain our watch, and so we yielded to the swift current of flying particles, and were born rapidly away from the vivid and dramatic scene. Presently the streams of electrons thinned out. We slowed up in our progress and before long were back again amid the familiar environments of our atmospheric existence, none the worse for our daring sally into the very jaws of certain destruction. Once again we rubbed familiarly against oxygen and nitrogen molecules, who seemed to be totally unaware of the existence of the fiery region from which we had just come.

The lurid picture of an atom crumbling in its innermost structure remained indelibly burned into my consciousness. I had not even the faintest suspicion that before long I myself would play the leading role in a similar drama of disintegration and destruction.

Through the Green Prison

OUR little carbon dioxide molecule continued to roam about, more or less aimlessly, always on the move, never lingering at any one spot long enough to get acquainted. Impelled by some mysterious driving force we felt ourselves egged on to continuous motion. We were alternately bathed in warm sunlight, and plunged into almost impenetrable darkness, the periods following each other with methodical regularity. This rotation of light and dark, my oxygen friends explained, were called by man *day* and *night*, and it was the method he used to measure the passage of time. Evidently, he knew nothing about our own complex time-measuring system, based on the periodic rotation of our electrons.

Sometimes we soared up, up into the rarefied strata of the atmosphere, where, although the sun shone brightly, there was a numbing chill about us, and our vibratory motion became feeble and sluggish. In those upper regions we felt ourselves practically alone, for we would travel vast spaces before encountering any other atmospheric molecules. For the most part, however, we kept close to the earth's surface, where, although living conditions were more crowded, still it was comfortably warm, and there was that feeling of security derived from the physical presence of myriads of other molecules all about us. Somehow, I didn't mind the buffeting and colliding so much,—I regarded it all as an essential concomitant of my existence as part of a gaseous molecule.

Then one day, during one of the periods of sun luminosity, our molecule began to enter a region of vast green shadows. Oxy-one informed me that we were passing in the vicinity of *leaves*,—the appendages growing on plants. Ah, yes,—I had been told all about plants, their abundance on earth,—their importance,—and this was my first contract with them.

We were carried by a swift current toward a huge orifice,—so large an opening as to encompass my entire vision. It was one vast green cavity that yawned and swallowed a thousand molecules in its maw. I found myself in a spacious, dimly-lighted chamber, that towered and stretched to magnificent distances. A dull greenish glow percolated through some mysterious portions of the distant roof and walls. Everywhere the green hue prevailed. I was fantastic beyond description.

"Now you'll see some action!" whispered Oxy-two. "We've just entered through a *stoma*, leading to the interior of the leaf. Our time has come, my carbon friend,—we shall soon part company. Old associations melt," he laughed softly, "new ones are born,—such is the existence of all of us,—this is the ceaseless routine we will follow until the very end of time."

Within the vast chamber there was a scene of bustling activity,—it appears that whenever molecules get together into intimate contacts there is always a scene of bustling activity. I recognized more carbon dioxide molecules all about me, as well as free double-oxygen molecules, and many water groups. These latter I had met before in my wanderings,—a single oxygen atom fused with a pair of those flighty hydrogen atoms of which I had heard so much.

From what I could gather, the chief commotion inside of the leaf centered about the carbon dioxide and the water particles. They were being lined up in some complex structure, whose nature I could not for a moment make out. The masters of ceremony seemed to be a scattered few molecules having a bright green color, and a complicated makeup that I was not able to fathom. I could discern a number of carbon atoms in their structure, as well as oxygen and hydrogen atoms, but the configuration was totally strange to me.

"These are *chlorophyll* molecules," remarked Oxy-two by way of information. "They are the bosses of these works. They control the chief

process that goes on in the leaf,—the process of *photosynthesis* or *starch-making*."

More new terms,—more strange experiences, I thought, but I was resolved not to become frightened at any unusual development. I could see that the very essence of atomic existence was change,—change—nothing but change.

Under the hypnotic influence of the nearest chlorophyll chief we moved along swiftly to a spot that he designated, where we found others like ourselves waiting. I saw a group of carbon atoms lined up in the form of a chain, with hydrogen and oxygen atoms making contact here there and everywhere along the chain. Automatically, almost as though I had been doing nothing else all my life, I slipped into the unfinished structure. Oxy-one was gently dislodged from my side and slid smoothly away to join up with the third carbon atom from me. Oxy-two, hugging me closely, reached out and apprehended a stray hydrogen atom which he held fast. I found myself securely tied by invisible bonds to the carbon atoms above and below me, as well as to the other members of our chain.

So swiftly did this synthetic process proceed that before I was aware of it I found myself an integral part of a sizeable molecule. Oxy-two, the remaining partner of my former association, told me that we were now part and parcel of a *starch* molecule, and that we were in line for more activity in a short time. In looking about me, I could see that, instead of there being one long carbon chain, as I had first believed, the new structure consisted of units, each made up of six carbon atoms in a string, together with ten hydrogen atoms and five oxygen atoms. How many such single units there were in the starch molecule I could not perceive, but there was no doubt that the structure of this new substance was extremely complex.

After a small group of starch molecules had been built up from the component materials, we felt ourselves dislodged from our resting place, and began to slide along in a definite lateral direction. We were joined by similar groups, and soon we were a considerable body of newly formed molecules, all moving as though being born by a smooth current. Presently we found ourselves no longer in the vast green factory chamber. We were now in a wide passageway sloping gently downward. The light was very dim, although I could make out with no great difficulty that the walls were constructed of stationary molecules, in close formation. I could see that the carbon atom constituted the building nucleus of these structural molecules.

Our journey down through the darkened passageways seemed to be interminable. What new adventures, I mused, lay in store for me at the bottom of this dizzy descent? Oxy-two reassured me that things would now be somewhat uneventful. How long a period, he didn't know. We were traveling down to the *roots* of the plant, below the ground he told me, there to be stored away. He was unable to say what sort of a plant this was, nor how long our confinement would last. We reached bottom at last, a cold, gloomy network of chambers, strangely reminiscent of my coal kingdom. The starch molecule of which I was a portion was pushed along not too gently, and finally came to rest along with many others in an out-of-the-way corner of one of these chambers.

My spirits sank at the prospects of another cheerless spell of imprisonment. Still fresh from the care-free existence following my delivery from the coal condition, I rebelled inwardly at this return to a cramped and monotonous life. I had tasted of the sweets of liberty, and I felt not at all willing to change back to my former state of inactivity.

I soon entered into conversation with the nearby carbon atoms in our chain, and they assured me that my fear of protracted imprisonment was goundless: They informed me that we were now part of a *potato* plant, and were stored away below ground in a portion of the plant's root system. I was relieved to learn that our confinement in this state would last for a comparatively short period,—only a few weeks as reckoned by man's process of time-recording,—and no more than a fleeting instant when measured by our own electronic rotational system.

CHAPTER VII.

A New Life

OUR time soon arrived and I discovered that the new sensations were not unlike those that I had experienced when I was dislodged from my coal existence. But there was now none of the violence and terrific commotion that I remembered from that period. I was conscious of a distant scraping and rumbling, and then I felt our group of starch molecules being lifted bodily. More movements, now up, now down,—more periods of rest, some short, some long. Then I gradually began to sense that familiar increase in vibratory oscillation which I now knew was associated with heat.

"Cooking!" was the explanation of Oxy-two laconically. "Our potato is being prepared for human food. Just another step in this endless cycle of change and adventure!"

I experienced no radical alteration as a result of this cooking process, although I heard from my neighbors that the heat had softened the walls of our prison chamber. Then followed a bewildering succession of events. I found our molecules being churned up with others, some simpler in structure, but most of them of greater complexity than our starch group. During these hectic occurrences I was able to learn from my comrades that the potato was being *chewed* by some human being, *swallowed*, and mixed with various materials in this being's *stomach* and *digestive system*, to render us *soluble*. Strange as these terms were to me (and stranger the actual events), I had come to accept all new happenings as if they were perfectly commonplace matters.

In these digestive processes taking place deep down in the stygian depths of this creature's anatomy I found that many of the strange molecules near me were undergoing a radical breaking down into simpler substances. Even our own

complex starch molecule began to divide up in conformity with a certain definite plan of dissolution. A number of passing water molecules attached themselves to our structure, and presently the whole bulky organization fell away into a scrambling group of individual carbon chains, which had formed the units of the original starch molecule. Each new structure now contained six carbons, twelve hydrogens and six oxygens, and I found myself occupying nearly the central position of one of these chains. A neighboring atom referred to our new molecule as *glucose*, or *grapesugar*, (what names to confuse and befuddle an uninitiated carbon atom like myself!)

The glucose molecules were now endowed with greater alacrity, for being so much smaller they were able to slide through spaces and crevices that would have halted them while in the starch stage. Oxy-two whispered to me that we were now digested, and would next proceed to pass through the lining of this human creature's digestive system into his *blood stream*. And presently, after much devious twisting and sliding, our glucose molecule found itself floating along smoothly through some huge passageway, urged on by a swift pulsating current of countless other molecules. Many of them I recognized, but a few were strangers to me. On all sides of us floated huge red masses composed of thousands of carbon-bearing molecules. On and on we rushed in that rhythmatic surge, driven forward by some gigantic push that repeated itself like powerful blows behind us.

Soon the vast passageway narrowed, and the pulsing became less and less pronounced. In the diminishing strength of the current we now moved more sluggishly. I learned that we were passing through the *capillaries*, the finest of all the tubes that made up the elaborate *circulation system* of this individual. Presently we were squeezed through the wall-like structure of the tunnel and found ourselves in a huge chamber that one of my friends characterized as a *cell*. Here we came upon further scenes of activity. So many different things were going on all about me that I could obtain no more than a confused impression of the kaleidoscopic whole. Molecules were being torn apart and their component atoms seized upon and reconstructed into different entities. Free atoms were scurrying hither and thither with an air of bustle and importance. Orders flew back and forth, commands were issued by unseen directors of the activities, and almost in a flash they were carried out. As our glucose molecule retired somewhat to one side, awaiting our final disposition in this theatre of activity, Oxy-two explained to me that this cell was the unit of plant and animal life on earth. Here all functions of living things were carried on, all the processes effected which made up the life of the organism. And it was with a sense of pride that I observed what a paramount role in this drama of action and change was enacted by my own kin,—the carbon atom.

Our turn came soon. The recently formed glucose molecule melted away under the influence of some mysterious disintegrating force. I found myself momentarily floating about alone, for the first time, it occurred to me, since my existence in coal, long—oh so long ago. Then, in the next instant, I found myself seized by a pair of oxygen atoms that appeared to come from nowhere at all. Automatically I accepted their proffered bonds, and found myself again the central figure of a carbon dioxide molecule.

What a relief to be in so simple a structure again, instead of in those bulky and awkward starch and glucose arrangements. I felt myself free and unhampered now. Skipping, sliding, bouncing along merrily, we,—my two new oxygen partners and myself,—presently emerged from the cell and into a blood capillary once more. I discovered many more dioxide molecules in the stream, as well as new structures that I learned were waste products of the processes taking place in the cell. In fact, I learned with surprise, and not a little chagrin, that we carbon dioxide particles were regarded as just as much of a waste product as the others. Oh, well, I assured myself, it's all a part of the life of the atom. And I was certain that I would not remain a waste material very long.

In the blood stream we hooked up with a scarlet material of an undistinguishable complex structure. It was not my choice at all to engage in this union; it was effected rather by a mysterious attractive force emanating from this red body. On questioning one of my oxygen atoms I learned that the colored material was *hoemoglobin*, and that our combination with it was purely temporary, intended only to facilitate our passage through the blood stream.

Our way led through numerous tunnels branching into each other, until we found ourselves surging through a passageway of such prodigious proportions that I could not discern its boundaries. We passed through a tremendously vast chamber, or a series of chambers, wher the turmoil and commotion was terrific. This I learned was the creature's *heart*, the central pumping station that drove the blood with its burden of material throughout the complex network of tubes in the body.

Again through a huge passageway, and presently through narrower and narrower tubes, until we were back in the capillaries again. Here I began to discern a roaring, rushing sound, similar to the noise made by millions of rapidly moving molecules up in my former existence in the atmosphere. Presently we found ourselves dislodged from the hoemoglobin of the blood stream, and together with countless other free carbon dioxide molecules were squeezed through narrow crevices and hurtled out into empty space. And as we sped outward, I perceived a rush of oxygen molecules, descending from above, and crowding into our old positions in the hoemoglobin molecules of the blood.

Dispossessed!—and yet happy to get out of our confinement and into the state of gaseous freedom, once more. With a rush and a roar we were forced upward and violently expelled into a blaze of sunshine. We had just passed through the *lungs* of this human creature, and were now once

again in the familiar environment of the atmosphere.

Monotony,—And Tragedy

BACK in the air, with hordes of nitrogen and oxygen molecules all about us, and occasionally a molecule like ours, I began my customary round of activity. First it was this combination, and then that atomic union. Drifting and wandering, joining up with others, or traveling alone, I was in a constant process of change and exchange. Now I found myself in some mineral below the ground, then I was part of a plant, then food for some animal, then part of his body, then expelled in some molecular union or other, and so round and round, without an aim, without a serious purpose in life, just drifting and wandering wherever the forces of chemical attraction impelled me. Sometimes I found myself alone,—more frequently in the company of other atoms, but ever moving, changing, building up, breaking down, ever "on the go," and ever a carbon atom.

Often, in my quieter moments I thought back to that time, it seemed so distant now—when I was a witness to the atomic disintegration of radium. The supreme enthusiasm that fired me on that memorable occasion had not completely left me. The romantic possibilities that opened themselves at the mere idea of atomic transmutation were almost beyond my imagination to comprehend. What wouldn't I give, I often thought, for that unique ability to drop or add electrons, and change at will from one element to another. The life of a carbon atom, after rounds and cycles of the same changes, the same configurations and associations, had now begun to spell for me unutterable humdrum. There were ninety-one other elements, and therefore ninety-one other wells of experiences to tap. Surely with the faculty of atomic transmutation, one could go on to the very end of time with enough variety and change to satisfy even the most adventurous.

But I was compelled to admit to myself that such conjectures were far from the realm of immediate possibility,—at least for myself. I was no radium atom, and I could never hope to attain any such distinction in the atomic classification. With a sinking sense of resignation, I abandoned myself to my monotonous existence. I often thought of my old friend CX-7 of the coal stage, and of Oxy-one and Oxy-two. Somehow, in all the turmoil of new associations and changing combinations, these characters stood out preeminent in my recollections. Where were they now? What interminable ocean of molecules separated us now? Would I ever see them again?

Yes, I did run into dear old CX-7 for a mere instant, and under the most dramatic condition. Myriads of electronic age-cycles of change had inured me to a life of constantly shifting associations. So that I was nothing more than mildly surprised to find myself once as part of a strange bulky molecule, made up of a number of carbon, nitrogen and oxygen molecules. We were in almost complete darkness, and packed together so that there was almost no room in which to exercise our customary vibratory motions. What new configuration was this? But who cared? I half-dozed lazily in my new berth, wondering vaguely what my next position would be after this association was broken up.

Soon, however, I became aware of something different. There was a feeling of tension all about me that I had never sensed in any of my other unions. Our configuration in these new molecules did not appear to be stable or rigid. The nitrogen and oxygen atoms of my own group seemed to be tugging at their bonds, and straining nervously in their assigned positions. Throughout the entire structure I could observe an uneasy restlessness, an uncanny undercurrent of weakness that brooded no good for the safety of our edifice. Some inexplicable danger appeared to hover over us, as though a mere touch would start the crash that would hurl us all to destruction.

Suddenly I was brought into startled wakefulness by a familiar call at my side. I turned to perceive CX-7 right next to me in this topsy-turvy, rickety carbon chain. Our greetings were warm, although hurried. Somehow, there seemed to be no time in which to exchange experiences, much as we should have liked to. That indefinable air of grim forboding hung like a pall over us. Something was going to happen, I felt, and very soon, at that.

"High explosive!" CX-7 managed to blurt out. "We're in a huge shell!—War!—The humans are fighting each other,—killing each other,—I don't know what it's all about, no one else does—not even the humans! — It's madness,—stark madness!—and they are using us to hurl death and destruction at each other! Oh, the futility of it all!—CX-6, good-bye!—I feel we're going to part soon,—maybe we'll meet again,—maybe under happier circumstances,—good-b—!"

His words were choked off by a tremendous crash that shook our unstable structure into a seething mass of quivering atoms. The detonation tore me away from my fellows in the carbon chain, and hurled me into a scrambling heap of shrieking nitrogen and carbon atoms. Reeling crazily in the mad turmoil, I managed to seize a pair of oxygen atoms to form my old familiar combination. Before we could stop ourselves, a powerful force shot us upward in a roaring fury of molecules. At the height of this mad excitement I lost CX-7 again. Vaguely I hoped that he had fared well in escaping from this inferno of destruction. Out into the open air again we shot, and presently the furore died down. Our vigorous vibration slowed up. Once more I sailed serenely through the atmosphere, none the worse for my last harrowing adventure.

Roaming, wandering, uniting, decomposing, changing,—the same ceaseless whirl all over again! My recent experience in the war episode did not serve to brighten my outlook on atomic life. It is true that at rare intervals I took part in incidents that might be regarded in the nature of comedy. Once I found myself as elementary carbon floating in a liquid which was known to the humans as *india ink*. One of their creatures,—he was called a *cartoonist*,—spread me out, along with millions of my carbon comrades, in the form of a funny picture, which caused many of his fel-

low humans to laugh, especially the younger members of the species,—the children. On another occasion, also as free carbon, I was part of a printed page in a humorous book made by one human to be read and laughed over by other humans. Again, I was one of a vast number of carbon atoms used once by a member of that race to blacken his face. In this condition he stood up before a vast assemblage of his fellow beings and threw them into convulsions of laughter by his words and antics.

But my rapidly souring disposition at my lot prevented me from joining in the merriment of the situations, or from realizing the part that I played to entertain those human beings. I had become an abject pessimist. Nothing but grim tragedy stared me in the face, and I took almost fiendish glee in the perpetration of or the participation in tragic events.

For example, while once undergoing combustion as elementary carbon, I, as well as the other members of the carbon group, found that there was an insufficient supply of oxygen molecules to satisfy us all. A rather selfish scramble ensued, with the result that a number of us managed to escape from the group, each united with only one oxygen atom. In this *carbon monoxide* state I found myself in a decidedly dissatisfied condition. I was morose and sullen at my half-ration of oxygen, and I found myself glaring covetously at any free oxygen that happened to pass me by.

In the course of time a large group of our newly formed monoxide units entered a dark passageway and I soon recognized the familiar approaches into a human's breathing apparatus, —his lungs. With almost fiendish glee we pressed our way down into the cavernous air sacs and through the wall spaces into the capillary blood stream. We were met by crowds of scarlet hoemoglobin molecules, all clamoring for oxygen atoms. I laughed unroariously as our hoodlum horde of monoxide molecules plunged in, each seizing upon a hoemoglobin unit and attaching itself with a tenacious grip. We pushed our way triumphantly through the blood stream, chuckled gleefully at the gasping body cells. They pleaded for the life-giving oxygen, which was nowhere to be had, and we danced about in ghoulish ecstacy as the cells shriveled and died.

Soon I grew tired of this sport, and cast about to learn what next I could do. I discovered that the blood was coursing more and more slowly through the tunnels, and finally reached a point of total stagnation. The numbing chill of death pervaded everything, and I shuddered at the ghastly horror of our mad act. We had *poisoned* a human—caused his life processes to cease because of our presence in his body. And then my sordid being almost laughed aloud at the pure deviltry of the whole thing.

It was not long before the work of decay and disintegration of the man's corpse had proceeded to the stage where I was again liberated in the company of oxygen as a gaseous carbon monoxide molecule. Again I found myself wearily floating in the air, buffeted about by flocks of other molecules, pursuing the same unspeakable monotony of existence.

CHAPTER VIII.

An Eternal Poison?

I HAD no idea, when I parted with CX-7 back in that war-time charge of high explosive, that I would ever see him again. But even our inconceivbly vast atomic world, it seems, is small enough for such chance meetings. As part of a large hydrocarbon gas molecule which was undergoing combustion, I found myself deposited as elementary carbon on a cold surface, along with countless others of my kind, in the form of *lampblack*, one of the purest forms of carbon in existence. Sure enough, there at my side rested good old CX-7, just as he did way back in those days in the coal stratum.

We had much to exchange, regarding our experiences both before and since our fleeting moment in the war explosive. When CX-7 learned about my radical proclivities in regard to atomic transmutation he was shocked almost beyond words.

"Come, come!" he pleaded. "Why aren't you content with just remaining a law-abiding, self-respecting carbon atom as you were by nature designed? This morbid moping won't get you anywhere. Brace up CX-6! This carbon life is not so bad after all. Why, I hear rumors that our little group here in this lampblack is soon to undergo a wonderful transition,—something in which few carbon atoms are ever privileged to participate. Just wait and see, my friend CX-6, —you'll be surprised and delghted."

I mumbled my scepticism in some incoherent syllables, and assumed a sullen silence. Soon I felt myself being raised and transported,—where I was going and for what, was none of my immediate concern. I yielded to everything with total indifference. Suddenly I found myself precipitated with violent force into a seething mass of matter,—I recognized the new molecules as those of the element *iron*. And what a boiling effervescent mass it was! In the terrific heat our carbon atoms danced and sizzled with extreme violence. CX-7 and I managed to stay close together, and in the clamorous turmoil he imparted to me the information that we were being dissolved in molten iron. After a period of this fiery mixing, we found ourselves suddenly subjected to a tremendous pressure. From above, below and from all sides came this crushing force that gripped and squeezed us until we felt as though our very internal atomic structure was about to be wrecked.

My thoughts flew to that memorable occasion when I stood so close to this disintegrating radium atoms and watched the phenomenal transmutation of elements. Could this present process be transmutation too? Was I now to undergo that dreamed-of change into some other element? Semi-conscious under the effect of the crushing force from all about me, I conjectured vaguely as to the probable outcome of this painful adventure.

Presently, under the terrific pressure, a few of the carbon atoms were pressed into new positions, which, strangely enough, I discovered to be of almost matchless regularity. Where we had previously been arranged in no particular order or alignment, we now discovered ourselves situated in a definite and regular pattern. Even in the almost unbearable heat and under the vast pressing force that clamped us from all sides, I could see a certain beauty about our new configuration that I had never witnessed before.

We cooled very slowly, and during the time that this cooling process consumed, CX-7 told me what had happened. "You and I," he said with evident feeling, "are now part of a *diamond crystal*,—still carbon, remember, but with the atoms arranged in a definite geometric scheme that is unknown among the other forms of carbon. We are now *crystallized* carbon,—the hardest substance on earth,—and a substance of such intrinsic value as to be prized very highly by all humans."

"This is the first time in my long existence," he continued, "that I have ever been in the diamond state. Once, a very long time ago, I met a number of carbon atoms in this same crystallized formation. They told me of how they had been altered from their original condition of disorganized atoms in much the same manner as we have just been changed. But, according to their explanation, they had arrived in the diamond state after a long and tedious process that went on for ages and ages below the ground.

"They told me that the very essence of this unique alteration is the slow and painstaking rearrangement of carbon atoms under the influence of tremendous heat and pressure, and that the most important factor is time,—eons of time. Never did I realize that this slow transition could be speeded up so remarkably. It's those human scientists,—they have means of duplicating nature's work and accomplishing it in a fraction of the time ordinarily required. What powerful forces they command! What skill they possess!"

Our diamond crystals were now subjected to an extensive treatment. The surrounding iron atoms were melted away by a rush of molecules that CX-7 told me belonged to a substance known as *hydrochloric acid*. We were not affected by this cleansing agent, and before long we found ourselves again in the glorious sunlight. The strong rays of light penetrated our new structure, twisting and rebounding in a most dazzling array of brilliance. Certainly I never realized that ordinarily dull carbon atoms could work such wonders with light rays. What a remarkable difference our new atomic configuration made?

I had scarcely become accustomed to my new situation when I received a bit of news that gave me a considerable jolt. It was CX-7 himself who imparted to me the new information. He confided to me, very solemnly indeed, that we diamond atoms were destined to spend the rest of our existence in this condition. No more change, he informed me,—no more chemical union with other atoms,—no more adventuring through space,—nothing but diamond atoms to the very end of time. Of this, CX-7 insisted, he was certain. No one had ever heard of a carbon atom in this crystallized state ever taking part in any combinations or reactions. The diamond condition was eternal.

A more staggering blow could not have been dealt to me than the divulging of this startling information. I could not doubt its authenticity, for CX-7 was to be relied upon in stating only what he knew to be absolute fact. The situation burst upon me with all its horrible significance. I was a prisoner! Bound and helpless, I was a much a prisoner here as I had been down in the dismal region of coal. It was true that there I found myself in a cold gloomy environment, while here I was an object of beauty, scintillating with a profusion of dazzling colors in the brilliant sunlight. But a prisoner nevertheless!—doomed to spend an eternity of existence in merely looking pretty!

And in my bitter anguish, I almost cried out aloud. To think that I had even grumbled at the monotonous routine of change and transformation during my all-too-short period as an ordinary carbon atom! To me that life had then appeared as the very epitome of boredom. And how I now longed for a chance to go back and resume that carefree life of chemical change and combination. That dim and distant hope of ever being anything but a carbon atom,—that nebulous dream of transmutation,—was now more visionary than ever. I confided my brooding thoughts to faithful CX-7 and he consoled me as best he could.

"Transmutation?—That's too far-fetched even to think about now. As for leaving this diamond existence,—well—perhaps I was a little too rash in stating so confidently that we are destined to stay forever. As far as I have ever heard there is not a single case on record where a carbon atom ever left the diamond state, once he entered it. But is that any reason for concluding that it can never be done? Those marvelous humans,— those ingenious scientists to whom we owe our existence in this synthetic diamond condition, are capable of almost anything. It would not surprise me at all if they should suddenly find some way for us to relinquish our crystalline regularity and enter into the same familiar combinations to which we are accustomed. And as for transmutation, I'll take back what I just said about it's being too far fetched. Is there any reason to suppose that these supreme wizards might not even be capable of *that?* At this very moment radium is undergoing disintegration into other elements. Man has never been able either to hasten or to retard that process, or to effect it in the case of other elements,—but does that mean that he never can in the future? I shall be surprised at nothing, —even if man finds it possible to change you and me into other atoms at will,—or even to destroy us completely."

Oblivion!

THIS brings my simple narrative up to the present time. I have been in my diamond condition for only a comparatively short period, but it seems ages already, and I don't know how I am ever going to endure the terrifying monotony of this new existence. The ambitious remarks of

CX-7 have become empty platitudes. They bore me. Having assumed an attitude diametrically opposed to his original belief in the permanence of our diamond state, he is supremely confident of ultimate change. His very insistence is becoming annoying. Only a little while ago he confided to me with trembling excitement that things are going to happen very shortly. He whispered that the human scientists,—the same ones who had caused us to be transformed into diamond, —are engaging in the preparation of an elaborate experiment with us. The nature of this work is very mysterious, but it is something radically new,—something that has never been attempted before.

How CX-7 can tell what these scientists are up to I have no means of knowing. Many times before he has exhibited that rare intuition.—or whatever faculty you may call it,—which has enabled him to project his consciousness out of the realm of atomic existence and ascertain the trend of events in other spheres. To only a negligible degree have I ever possessed that ability. But CX-7 it seems can tell instantly what these learned men are planning, read their thoughts, fathom their designs and anticipate their inventions.

Nevertheless, I am unable, somehow, to place much stock in these new experiments. CX-7 insists that they are of momentous import, but I cannot bring myself around to any optimistic thoughts about my own future. What's the use? Let them experiment with me! Nothing matters anyhow! Monotony,—routine,—boredom,—everlasting sameness.—

Hello! — What's that? — Rumblings—distant rumblings,—and getting louder each moment. A mysterious shudder runs through me,—I feel myself impelled to vibrate more rapidly, and I see that my neighbors are trembling in a queer manner. The far-away rumblings are becoming more pronounced,—they have an awful, sinister tone that seems to tell of impending doom. A convulsive wave of frenzied oscillation courses through our ranks and then dies away in the distant reaches of our domain.

What is that sudden shaft of searing yellowish luminescence? It plunges through our midst with blinding brilliance that pales the rays of sunlight pouring into us from all sides. It is gone now, but it has left a wake of quivering atoms behind. There goes another one, tearing through our atomic ranks with reckless abandon. A third, —a fourth,—these devastating beams are hurtling along in ever-increasing numbers.

Crash! One of these murderous shafts has just struck an electron of my neighbor at my right. It was a glancing blow, but the electron is reeling dizzily in its orbit, and the entire atom is trembling violently through his entire structure. An increasing number of the surrounding atoms are suffering more or less direct hits. Luckily, I am so far unscathed, although I cannot overcome that contagious agitation that has taken possession of me.

CX-7 is saying something to me. The din of these crashing messengers of destruction is overwhelming,—I cannot understand what my friend is trying to tell me. He is extremely excited,—so am I,—so is everyone of us throughout the entire diamond structure. "Rays—scientists—transmutation—destruction—" I cannot make out any sensible message in this incoherent babble.

Electrons!—hundreds of them!—plunging crazily in all directions! What is the meaning of this? They are unattached—free—flying through space in straight lines,—not in uniform circular orbits!

Ah! Now I see it! I see it!—They are being torn away from our carbon atoms! Transmutation at last!—just like the radium atoms I watched many ages ago. But no!—this is something more!—Horror of horrors!—My fellow atoms are being disrupted,—broken up! This is not transmutation!—this is no mere change into new elements!

Oh—Father of Atoms!—I'm being torn asunder! —Electrons!—my electrons—don't go!—stay with me! Oh they are being ripped out of my very structure! One—two—five of them have torn from my side! CX-7—CX-7! Where are you?—look—your electrons too—leaving you—gone!—See—your *nucleus*!—it's breaking up—exploding —flying protons!—flying electrons!—Oh CX-7! what has become of you!—there's nothing left of you!—you're gone—blotted out—destroyed!

And I!—Oh the pain!—the anguish!—will this ever end?—Rip!—crash! Oh—my nucleus—my protons—Save me, oh merciful Creator! I'm slipping, I'm dying—darkness—*oblivion*——!"

* * * *

The Learned Scientist peered through his instrument, and then raised his head with a sigh. He turned a knob on the box-like mechanism before him. The intense, yellowish beam of light crackling from a glowing lens that fitted a tiny aperture faded away into nothingness. With his almost immobile face betraying the very faintest suggestion of a smile he turned slowly to a group of men standing close by the strange instrument. Awe, wonder, bewilderment was written on their countenances,—as though they had just witnessed a supernatural manifestation or the work of a powerful strange deity.

"You see, my dear professors," said the Learned Scientist, suavely, "Even the impossible can be accomplished. Transmutation of elements is child's play compared to what you have just seen. Those synthetic diamond crystals that you watched me place on the focal tray of my apparatus are gone,—disintegrated,—destroyed! My ray has broken up the carbon atoms into their component parts. And what have we as a result? *Electricity!* So much positive electricity and so much negative electricity, as shown on these galvanometers before you."

THE END.

The Island of Terror

By Ransome Sutton

Rising to a sitting position I took the bone in both hands and struck like lightning.

A WING turned Carl's head—the crumpled wing of a Fantasmas moth. An amateur collector in Port of Spain, Island of Trinidad, had written that this supposedly phantom species actually haunted an island in one of the streams of the Orinoco delta, and Carl had commissioned him to obtain a specimen at any cost. Too bad! Carl was always chasing phantoms. To my chagrin and his unbounded gratification, however, a real Fantasmas moth finally arrived in the mails. Poorly packed, he told me over the telephone, yet somehow one whole wing came through in almost perfect condition. He wanted me to rush right up to his bungalow.

"It'll look better by moonlight," I procrastinated. "Bring it over this evening." I had interests of my own and a dinner engagement. Besides, I felt the time had come to begin throwing cold water upon his moth mania.

Shortly after dinner he arrived—bareheaded and in shirtsleeves. A handsome youngster, if I do say so, with blue eyes and clean-cut features. He was twenty-six years old, two years younger than myself, and since the death of our parents, we had lived apart but kept in daily touch with each other. Fortunately, we could afford to ride

Very few writers possess the ability to combine in a single story a startling scientific idea, a strange atmosphere and a corking good yarn. Yet Mr. Sutton has given us all these things in this story, with which he makes his bow to our readers.

Our author is a prominent writer on scientific matters on the Pacific coast, and he assures us that the atmosphere that makes this story so thrilling comes from personal experiences of his in out-of-the-way corners of the globe.

As to his scientific ideas, they are well-known yet the full significance of them has never properly dawned on us. Since Gregor Mendel, an obscure monk, gave to the world his studies on heredity, we have learned somewhat the why of individual family and racial characteristics. From his studies of interbreeding of plants, Mendel found how two living forms interact and he worked out laws to tell us what sort of physical and mental characteristics we might expect when two species breed. The whole subject is intensely interesting and with it we can trace the degeneration of such beings as the Russian dog-man and the loup-garou as well as the production of our greatest geniuses.

(Illustration by Marshiond)

our hobby-horses wherever we chose, and we had ridden them to California. His bungalow, more like a museum than a home, sprawled across the mouth of a canyon in Altadena, whereas my so-called "studio" was in Pasadena, within walking distance of the California Institute of Technology, where I was doing some research work in Mendelism—a much more important hobby I thought.

What I most admired in Carl was not his good looks but his splendid courage. He feared nothing. And in my heart I knew that I was naturally a coward. A shameless confession to put into print, and it scares me to do so; yet I have always obliged myself, regardless of consequences, to do the things I feared to do. As a boy I used to rush in where no other boys dared go, so I acquired a reputation for recklessness, but it was sham courage. Carl's courage, however, was sterling stuff. He would laugh at dangers that brought the cold sweat to my brow. I could beat him at tennis, yet he always got across any sort of dead line first, because he leaped forward intuitively, whereas it took time for me to

screw my courage up. The stories of adventure, through which I thrilled, hardly interested him at all, for he could see nothing unusual in heroic behavior. Why should blood brothers be so different? Why should a shuffling sound outside the door at night shake the pencil in my hand, when Carl was deaf to such silly sounds?

These questions were running through my mind while he unwrapped the little black box wherein, on milkweed cotton, he had placed the remains of the moth. To one form of fear apparently he was not immune—the fear that his trembling fingers might injure the specimen.

"Stay where you are," he said, "until I'm ready, then turn off the lights. That was one of your bright ideas, Henry. Moonlight, b'gosh."

With a pair of forceps, he took the wing to the open window, held it in the moonlight, tilted it at varying angles to bring out different reflections.

"Now douse the glim," he exclaimed, "and tell me what it's like."

"Well, it looks like a fan of golden smoke all right, but it's just a wing. A dead insect's wing, a bit crumpled, beautiful enough in its queerness I suppose. Listen to me, Carl, there's beauty in living things. Don't you know...?"

"I know what you're thinking," he broke in coldly. "But if it takes all the rest of my life and money, I'm going to have a perfect specimen. And I might as well tell you right now. I'm leaving tomorrow for Fantasmas Island." He threw the wing out of the window and held out his hand.

Exasperated, I dropped into a chair and railed at him, told him the Orinoco delta reeked with miasmas, raved about strangler-trees and murder fishes and jaguars.

"Why should I be afraid to go where other people go?" he asked in that daring way of his. "All the same I'm sailing tomorrow. How about a drink?"

"Of course, of course," I stammered weakly, for the moment he mentioned not being afraid, I realized my objections were the natural reactions of fear. I had fancied myself in his place and spoken impulsively. To save my face I agreed that if he valued the moths so highly, why, the thing to do was to go get them. But it was hard work to say so, for I had a premonition that this good-looking brother of mine would never return from the damnable trip.

RANSOME SUTTON

Overwhelming Fear

A cablegram from Carl, telling me he had arrived in Port of Spain, and chartered a sailing boat to take him over to the Delta, was followed by silence which seemed more and more ominous as the weeks went by. I finally went to his bungalow and in his letter files found the name of the amateur collector—Charlie Wilkins—and cabled, but his reply made matters worse. Fishermen on the Gulf of Paria, it said, saw the boat cross the bar at the mouth of the Pedernales River (one of the streams into which the Orinoco splits before reaching the sea), but it had not since been sighted.

Two weeks later a frightful cablegram came:

> *Zambo Sam, master of the boat your brother chartered, has returned without him. Says he landed him on Fantasmas Island, which the natives call Haunted Island, because it's supposed to be haunted by ghosts of the pirates that anciently resorted there. Says your brother was hunting for pirates' treasure when 'sumpin whiffed him away.' That's all the information I can get out of the superstitious Zambo. He will be here a week. Wire instructions.*
>
> *—Charlie Wilkins.*

I was stunned. Carl, either killed, or abandoned. A "haunted island!" "Wire instructions." What was I to wire? There was just one message to send and the words leaped red-hot into my mind, but... Go down there myself? Flounder through alligator wallows, in furnace heat, inhaling tropical fevers? "Sumpin whiffed him away." What on earth could those weird words mean? An island haunted by ghosts! An island of fantasms! Digging for pirates' treasure! The whole thing sounded uncanny. Suppose I went, what good would it do? Arrangements might be made through the State Department for the American Consul to send a search expedition. A dozen things might be done—from a safe distance. On the other hand, strangers could hardly be expected to follow Carl's footsteps into the dangerous places he would be inclined to explore. It was up to me! Even if I did not go farther than Port of Spain, I could learn the facts at first hand from Zambo Sam. But he would be leaving in a week. No chance of seeing him...

An airplane, roaring over the city, suggested a frightful possibility: one might fly there in time to talk with Zambo Sam—provided the plane did not dive into the Caribbean Sea. Lindbergh flew to Trinidad. Others also. Why shouldn't I? God, the facts were hard to face. Yet I faced them. I took a drink of drugstore whiskey, locked up and drove to the Glendale airport for my first flight.

Feeling braver than a lion, although a bit bewildered, I came to in the aviation field back of Port of Spain and bargained with the pilot to wait until he heard from me. If Zambo Sam had gone, I meant to explore the delta from the air. Then, calling a cooly carriage, I drove to the address of Charlie Wilkins, who lived with

his mother on the edge of town. A disappointing fellow, with a downy mustache and a cough, he had learned nothing new. "Sam's still here, but he's going to sail tonight," he said, and that was the best information he had. Despite his nervousness and apparent indifference, I invited him at a price to go with me to the delta.

"Over there!" he exclaimed, with more feeling than I supposed he possessed. "Why, no one comes back from the delta. Ask anybody. There's a sand-bar across the mouth of the river, and Sam's flat-bottomed boat's the only one that can cross it. And Sam's just a zambo. I told your brother what people say about the ghosts and everything. You see, he didn't come back."

The best he would do was to go with me down to the water front and point out Sam's boat—a small two-masted schooner, anchored among the bumboats about a quarter of a mile offshore. It looked gallant enough in the afternoon sun, its sails all silver in the slanting light. Telling him to wait, I took a launch out to the boat.

It had a flat bottom all right and two dirty sails—for the silver had vanished from them—and on the deck sat a half dozen Zambos, playing some sort of a game with nuts. They were nearly naked, big brawny fellows, with rings in their ears and knives in their belts—the most mongrel humans I had ever seen. Being a student of Mendelism, I knew that Zambos were the offspring of renegade negroes and jungle Indians, two breeds which blend badly, but I had no idea how far back reversion could carry human beings. The aspect of these fellows was startling; they resembled apes more than men. Human mules! And mules, I remembered, were stubborn animals.

I asked for "Captain Sam," and up rose the throwback de luxe, his knees bent, his flat feet wide apart, his big mouth open.

"I'm Henry Haveland," I began as confidently as possible. "It was my brother you took to Fantasmas Island. What happened to him?"

He tried to speak, but simply stuttered, for it was fear that made the effort. I knew the signs. In all his stutterings, I could distinguish only a string of silly words: "Voices . . . *sombras* . . . lemures . . . black wings . . . vampires . . . whispers . . . moans . . ." On other subjects, he talked quite intelligently, but whenever I recurred to Carl's disappearance, ten thousand years of superstition shivered through his brain. Feeling my own knees weakening, I said, "Sam, I want you to take me to Fantasmas Island and *bring me back!*"

He shook his head violently.

"What's the matter with you?" I snapped.

Jerking the machete from his belt, he hurled it the length of the boat and buried the point in a plank no wider than the space between one's eyes. "Me can't do that to spirits, bass, so talk no more 'bout island."

"Where're you going from here?"

"Up river by Pednaly, not by island."

Knowing that Pedernales village, Pednaly as he called it, was on the east bank of the river diagonally across from the island; "Will you take me there and wait until I return, then bring me back here?" I shouted at him.

He turned to the crew and barked at them. Judging by their manner, the jig was up. But finally Sam faced about with the proposition that for eight "hard dollars" a day, "some sow belly and a sack of brown sugar," he would take me to Pedernales, remain there as long as I wished, and bring me back, provided I agreed in the presence of the port officer not to ask him to sail near the island. I was also to furnish my own bed and board, deposit the money with the port officer to be paid over upon his return, with or without me, and if by any chance I managed to get across from Pedernales to the island, he would not be expected to look for me, nor to wait longer than ten days. He wanted to sail as soon as possible in order to cross the sand-bar at high tide next morning. So it was settled—all but the ordeal in the office of the port.

The port officer had a good deal to say. "The Pedernales is a river of death," he volunteered, annoyingly. "Whoever goes down never comes up. Murder fishes, electric eels, sharks, alligators. Better change your mind, Mr. Haveland, before it's too late. That haunted island! Say, Sam's right. A dozen persons have gone over there since I've been in charge of the port to hunt for buried gold, and none came back. Of course, your brother—"

"For heaven's sake, man, get busy," I interrupted in a way that must have offended him. Without further warning, he wrote down my name, address and next of kin, and made a record of my appearance: five feet eleven inches tall, blue eyes, light complexion, a slight scar under right eye, dressed in hunting togs, nervous disposition, and so on.

That business over, I scribbled a note to the airplane pilot, telling him not to wait any longer, and sent it by Charlie Wilkins, then purchased quite a supply of provisions, including the sow belly and brown sugar, and with Sam's help got everything aboard and we sailed just before sunset.

And how we loped over the Gulf of Paria! Like an old Airedale with a bone in its mouth, the old boat galloped into the night, trailing out a wake of phosphorescence which glimmered brighter than the wake of the tropic moon. Save for the flapping of the patched sails, the swishing of the waves, the whining of the wind, the rumbling in the clouds and the crooning of the Zambos, black silence reigned, and a sleeping powder put me to sleep.

CHAPTER II.

La Blanca

SAM'S toe in my ribs awoke me. Thanks to the powder I had slept away the night and the forenoon also.

"Pednaly town," Sam was saying.

It was a more primitive place than I expected. Quite pitiably picturesque. A row of mud huts roofed with palm leaves, the clay-covered river in front and a solid wall of jungle behind—that

was Pedernales, the only human habitation on the entire delta. Pointing over his shoulder with his thumb; "F-F-Fantasmas", stuttered Sam. Not more than two miles away, it looked like a great floating mass of greenhouse vegetation. Around feathery fronds, which flickered like flames in the sun, bizarre birds swirled. A queer place indeed for one of Carl's accomplishments to look for moths.

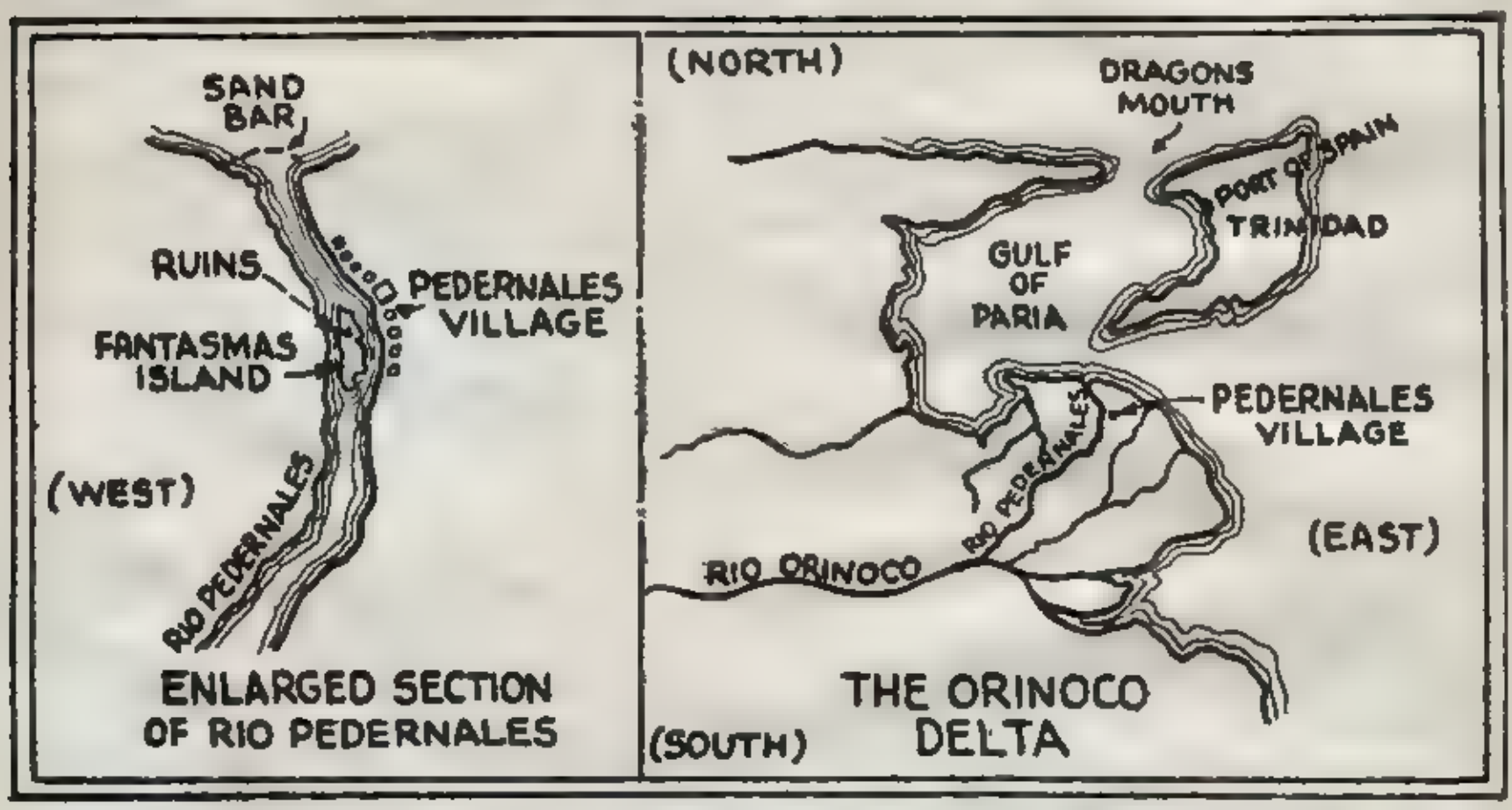
Sam moored to the mangroves and I went ashore. What a relief to learn that the little old mummy who stood in the doorway of the hut over a Venezuelan rag-of-a-flag fluttered, spoke a little English. A mestizo he proved to be, in whose veins still flowed the blood of the buccaneers that anciently frequented Fantasmas Island. Of course the Spanish blood had been mostly bred out; but he had still his pedigree and, therefore, his pride and petty pomposities. We bowed and scraped. Then, sipping Jamaica rum from a flask which I produced, we got down to business. What I wanted was a dugout. I had seen a whole fleet tied among the mangroves as I came ashore. To my surprise, this hospitable host, who had already placed the best hut in town at my disposal, was shaking his head and acting almost as queerly as Sam had behaved. At length, however, the rum loosened his tongue, and he poured out a tale while almost took my breath away. "Before my father died," he declared with evident sincerity, "I paddled close to Fantasmas and saw a loup-garou. Si, senor, a loup-garou! The head of a man on the body of a beast. Head hairy all over, except the eyes and nose. And it's the leader of a pack of werwolves. Si, senor, werwolves. You believe me not? It is truth. We who live here know. Know you what a vampire is?"

"A b-a-t, of course," I stammered, mopping the perspiration from my face. It was sizzling hot under the lean-to where we sat on stools with the flask between us, although the heat had not seemed so oppressive until he spoke of the loup-garou.

In a confidential tone he went on: "Call it what you wish, a vampire's a ghost with a baby's body and a black angel's wings. It flies by night and sucks warm blood. My old eyes have seen vampires, too," and he made a sign of the cross. "It would be murder to give you a dugout. Even if I should do so, where would you find paddlers?"

Pretending a courage I did not feel: "What's the matter with paddling my own canoe?" I asked.

Waving his small hands toward the river: "Mira!" he exclaimed. "The Rio Pedernales is always that way, senor. Logs, stumps, driftwood on angry tides. And under the tides—sharks, electric eels, blood-sucking fishes. It takes two paddles in the hands of strong rivermen to cross Pedernales."



A map of the district where Carl disappeared. On the right upper is shown the Port of Spain and the Gulf of Paria which one crosses to get to the Rio Pedernales. On the left is an enlarged section of the river.

Until that moment I had hardly given the river a glance. I recalled having read that the tides ran high on the delta, and here they were. Besides running high, they were littered with the debris of a vast watershed. A wild, clay-colored river, which seemed to be running inland, as it literally does when the tides are high. But yonder lay the island, shimmering in the mist, so plainly in view. Here were dugouts and paddlers. Was I to be balked after all? "Jefe, my brother may still be alive. I'd be a skunk to turn back now. What do you suggest?"

"Your Zambos? Of course they will not take you. Ah, senor, Fantasmas is taboo."

I did some pooh-poohing, but it did not phase him. One might as well try to pooh-pooh saints out of the Christian religion. In the very core of his heart, this mestizo headman believed the

island was haunted by evil spirits. No use arguing. I would have to wait awhile, get better acquainted. I would spend the night here, calm down and trust to circumstances. He arose and opened the door of his hut, beside which we had been sitting, and said, "Bring your things ashore, my friend. This casa is yours."

On the way to the boat, I was amazed to see a young white woman among the squaws on the river bank. Having heard of white Indians, I paused for a second look. Blonde hair, brown eyes, dark lashes, calved legs, tanned skin, perfect teeth!! Had a yacht been wrecked and this girl saved? All the afternoon I wondered about her, and that evening, while the jefe and his corpulent spouse—she was three times his size, low-browed and coffee-colored—were enjoying my canned stuff, I asked about the white girl. "Girl" sounded more modest than young woman, and I did not wish to appear specially interested.

"My granddaughter, senor. Her father was my son, her mother a spotted *mestiza*; both died when she was very young."

"Her mother—spotted?"

"Si, senor, white spots on her brown body. La Manchanda we called her. The nina we named La Blanca, because she was all white." She spoke to his spouse, whereupon that mountain of flesh went to the door and shouted, "La Blanca!"

With hands on hips and head thrown back, La Blanca came boldly and looked me level in the eyes. Despite the jefe's statement, I still believed there was not one drop of Indian blood in her veins. Nor were there any spots on her—she was white. A short skirt covered her hips and legs, but she wore nothing else except a string of beads and the band which held her hair back; so I could see that her body was no darker than that of an average Caucasian brunette. A boyish body, only rounder and finer muscled, and her feet were beautifully arched.

"No speaks English," said the jefe, whose existence I had momentarily forgotten, "though she understands a little. In one month La Blanca will be married. Wish you to see her novio?"

"Later on, perhaps," and I motioned La Blanca to help herself to the provisions. Without the least embarrassment she did so—tasted this and that, made faces at the sardines but licked the honey I poured on a plate, acting perfectly at ease in my presence. To show her appreciation of the can of honey, which I thrust into her hands, she took me on a sight-seeing tour of the town.

The Jungle Terror

THERE were twelve huts, all facing the river. A huge shed, in the middle of the row, served as a market, meeting place and social center combined. In it clay vessels, hammocks, fish, baskets and jungle products were displayed. But La Blanca herself was a thousand times more interesting than anything she pointed out. All the other females shrank bashfully in the background, whereas she swaggered by my side. And, although she spoke no English, she plainly understood my questions and answered, cleverly with gestures and shrugs.

At the end of the row of huts, where three mop-headed men were penning up a pack of ornery dogs, she made a motion which caused my flesh to creep. The motion meant that the dogs were being caged to keep the jaguars from carrying them off at night. After going the rounds, she escorted me back to the hut and showed me how to bar the door. As to the one window, it was only a V-shaped slit in the thick wall—hardly wide enough to admit a man-eater.

Meanwhile, I had been making plans. And as soon as she left the hut, I went aboard the boat and instructed Sam to go among the mestizos and promise two bottles of rum to any two paddlers who would take me over to the island early next morning. Instead of protesting, he grinned like an ape. Did he think there would be no takers, or was he willing to send mestizos to the ghosts? Fancying the rum would do the trick, I gathered together such things as one might need for a day on an uninhabited island, took them to my hut, shaved, washed, brushed up, and went to dine with the Jefe.

Around a hand-made table we sat down on benches; the Jefe, two squaws, six papooses, La Blanca and myself. Besides the jug of wine, which I contributed, the meal consisted of cassava cakes, a savory stew and a salad served on banana leaves. Hurrying through the dinner, I took the Jefe by the arm and led him into my hut.

"Now look here, my friend," I began nervously, "I think you've been spoofing me—about your granddaughter and ghosts. You're a gentleman, with white blood in your veins, and you speak my language. I'm your guest. I have eaten your cakes and you have sipped my wine. I want you to tell me the truth about La Blanca."

Amazement in his manner: "Why, my friend, I've told you the truth. Her father was my son, her mother La Manchanda. That is all."

Was he lying or had someone perpetrated a hoax on him? In either event, there was no use pressing him farther. "Pardon me for doubting you," I replied. "It's a strange case, but there seem to be many mysteries on the delta. Now, about a dugout. I must have one, Jefe."

Like all men who have backgrounds and ancestors and memories, the Jefe had pride, and to his pride I had appealed. But with pride came pain, then weakness. Shaking his head: "Nunca, nunca!" he murmured. "If I sent paddlers with you, they would come back without you. It is impossible. Fantasmas is taboo," and with all the dignity of a hidalgo, this shadow of the Spain that used-to-be gathered up the shawl, which sagged from his shoulder, bade me good night and backed out of the hut.

For awhile I stood in the doorway—listening. The sun had set and the jungle was waking. Strange sounds were in the air—whines, yelps, howls and growls. Until now I had not felt much fear of the jungle. It was right behind the huts, but by day it had been strangely silent. Now, with the darkness deepening, it seemed to be seething with—no telling what. Even at

home, I remembered startling at the sound of rustling leaves, but these noises! In front of the huts an old squaw was putting out the torches, so I closed and barred the door, laid out a revolver, dropped into the hammock and listened. The air was hot and humid, and a feeling of nausea kept me awake. I knew I was safe, even in this uncaged menagerie, yet at every yowl my heart skipped a beat. Yowling! There was yowling all around and these yowlers were jaguars. Worse still, an unearthly chorus suddenly shivered through the air, rising higher and higher until the whole jungle throbbed with sound, then it dropped down slowly, an octave at a time, and finally ended as a sort of moan. Having heard about howling monkeys, I realized they were howling their night song, but I never imagined it could be so outlandish. Time and again the uncanny rhythm rose into a roar and moaned off into silence—always from different directions, for the howlers were always trooping.

To quiet my nerves, I went to the window and looked out. The river also was roaring, but the moon had not come up and I could see nothing but black mist. The dogs, however, were silent—scared stiff perhaps. As to the haunted island—So long as I had done my level best—But had I exhausted every possibility? There was Sam; despite my promise, I might bully him into sailing me over. La Blanca—No use trying to think coherently on any subject under such crazy conditions. I took a light sleeping powder, washed it down with a gulp of rum, stretched out upon the hammock without undressing, and finally dozed off.

Toward morning a stick, which someone thrust through the window, brought me to my feet. Holding my breath, I tip-toed to the window. The night seemed serenely beautiful now, for the moon had risen and quieted the jungle. La Blanca! It was she!

"Sh-sh!" she was saying, with a finger to her lips.

I opened the door. She motioned me to gather up my belongings, and loaded like a pack horse I followed her to a cove where the dugouts were moored. Two shadows stood among the mangroves: Zambo Sam and a long-armed, low-browed mestizo.

"Him's Juan," Sam grinned. "La Blanca's promised. Him and her paddle you to island," and he held up an empty bottle which had overcome Juan's fear of ghosts.

It seemed like a dream, yet here we were—shoving off! Now the importance of two paddlers became apparent. For the dugout, being simply a dead tree's shell, careened crazily and took water at every turn. Making matters worse, about the time we reached the middle of the stream Juan began to act queerly. Instead of stroking steadily, he skipped strokes. Stroking intermittently on one side until prompted by La Blanca, he would lurch heavily to the opposite side and repeat the performance. When at length the terrible truth dawned upon me, fear in its most sickening form took possession of me. He was drunk. Passing out and taking two white people with him. All my life I had cringed at the feel of fishes. Now, to be dumped into a river from which no one emerges; to be devoured piecemeal by murder fishes, when right yonder lay the island, with the rising sun shimmering on green leaves—At that moment fear made me more dangerous than Juan. For I was foolish enough to think it possible to heave a drunken mestizo to the sharks without overturning the dugout. La Blanca fortunately rose first. One hand upon my shoulder she poised her paddle in air, shouted "Huy" at the top of her voice, and as Juan swayed from one side to the other she struck—and down he settled in the bottom of the dugout. I caught the paddle which fell from his hands, but La Blanca motioned me to bail water with my hat, and somehow she managed to paddle into the lee of the island.

CHAPTER V

Smoke!

An impenetrable hedge of mangroves surrounded the island, save at the extreme north end, where the tides had swept back the vegetation from a beautiful little crescent-shaped beach. Back of the beach rose a barricade of driftwood, brought down the river and piled up by the tides, and behind the barricade the jungle loomed. A beautiful Eden—in morning splendor; swaying fronds, flaming wings, chattering monkeys, flowering vines, fragrant odors, dew-covered webs shimmering everywhere. Long-legged wading birds made way for the dugout and we stepped ashore on Fantasmas Island. Despite the beauty of the place, its prehistoric aspect was a bit appalling. It was as if we had drifted back in time and space to an Eocene jungle, for this island had plainly come down the centuries unchanged, forgotten by evolution. Flowerless trees covered with blooms. But the blossoms did not belong to the trees; they belonged to the vines, or lianas. It was borrowed beauty. The greenhouse flora, sighing in the breeze and shimmering in the sun, was literally as antique as the alligators, lying beneath the mangroves with their snouts on the land. In such an antediluvian scene, human beings would naturally feel out of place. Even the beach seemed to undulate under my feet, probably because I had not yet completely recovered my land-legs. Nowhere, however, was there a single thing to fear, and what a relief that was—after our close call on the river.

We tied the dugout to a bush and La Blanca proceeded to bathe Juan's head. Then she ran here and there, stopping suddenly to examine some particular bush or weed. Was she botanizing? Finding the weed she wanted, she squeezed its juice over Juan's bump, showing more solicitude than seemed necessary under the circumstances. I removed the things from the dugout, placed them in the sun to dry, and reconnoitered.

There were no human tracks in the sand. It was evident, however, that the denizens used the beach as a playground, or perhaps a fighting ground, for the signs of paws and claws appeared

everywhere. There were paths across the sand, which looked as if a carcass had been dragged over the surface, but it seemed more likely that the flat furrows had been made by prowling alligators.

Climbing to the top of the barricade, I experienced a happy thrill. For through the foliage I caught a glimmering of smoke. Although the jungle had commenced to steam, this thin spiral, curling upward from a bush-covered mound about a stone's throw from the barricade, could not be steam, or mist. It could not be anything but smoke. A tiny cloud hovered among the tree-tops, whose branches overhung the mound. Smoke! So Carl must still be alive? I whistled, shouted, listened.

No response. Just jungle silence, accentuated by murmurings of insects, the sighing of the wind, queer creakings and queerer twitterings. Cupping my hands, I yelled: "Carl! Carl! Where are you?"

The titterings now sounded louder, more uncanny, like the subdued gigglings one hears when visiting an insane asylum. These titterings were not continuous; they would rise and fall, and break out again apparently from another direction. It was as difficult to locate the source as to locate a cricket by its song. Because of the human note in the sound, an absurd question leaped into my mind: could Carl have lost his reason? Save for the gentle swaying of fronds, nothing seemed to be moving, yet the thing from whose throat those titterings came must surely be moving. Could the sounds come from those heads of hanging hair? No, the hair on those heads was nothing but roots—the roots of epiphytes, growing on limbs, which gathered their nourishment from the dank air. Feeling the chills crawling up my back, I beckoned to La Blanca.

Actual picture of Adrian Jeftichjew—the Russian "Dog Man." This is from Lull's Organic Evolution. He is an example of a real throw-back to a degenerate state.

Whiter faced than ever, she climbed the barricade, and confirmed my opinion as to the smoke. At least she nodded her head. To my surprise she signified a willingness to go with me to the mound. And it was she that led the way—on hands and knees. So dense was the vegetation that we had to crawl, regardless of snakes. At the end of the crawl, we found ourselves on the top of the mound—staring into the tiny crater of a mud volcano. It was spitting bubbles of liquid asphalt and emitting little puffs of smoke.

What a let-down! A laughing matter. We had crawled through a tangle of thorny vines, expecting to find a smoldering campfire, and here was this. The next moment we were bending over a track at which we did not smile. A frightful footprint, hauntingly human yet monstrous, for only the ball of the foot and two large toes had made an impression in the moist soil. A zig-zag series of similar tracks extended down the moundside, and along with them were others made by big knuckled fists. No use blinking the facts—these footprints and handprints were positively bizarre. It was as if an urang-utan had waddled down the mound, yet I well knew no anthropoid apes inhabited the delta.

Out of the Hole!

EXPRESSING my silly thoughts: "Lou' groo!" whispered La Blanca. She insisted upon returning at once to the beach, and I made no effort to restrain her. Why should I? Courage did not oblige a man to take up the trail of the beast, no difference how manlike its tracks might be. Back on the beach, however, I felt rather foolish. I could not get those outlandish footprints out of my mind. They were tangible evidence that something, which came close to the Jefe's description of the loup-garou, was at large on the island. And with it at large, one had better be on guard. I tried waking Juan, but he remained dead to the world. The bump on his head did not matter; he was just sleeping off his rum. What did matter was that Thing, yet for manhood's sake, I had to pretend to be unconcerned, on my own account as well as La Blanca's.

Not for worlds, after my sit-still-and-do-nothing behavior in the dugout, would I have her suspect my mortifying trepidation. I wanted to show her, as well as to make myself believe, that white men were ready to face anything. No use walking the beach, however, waiting for something to turn up. The day would not last forever, and I must find out what had happened to Carl. According to Zambo Sam, he was digging for pirates' treasure, when "sumpin whiffed him away." But, if the ruins of a buccaneers' abode existed within this impenetrable jungle,

how was it to be located? One could not walk along the water's edge because of the mangroves. Standing on stilt-like roots, the mangroves extended from the jungle wall into deep water, and only God knew what caused the black waters to seethe and swirl among the stilts.

As if suspecting my thoughts, La Blanca climbed the barricade, sprang into a tree and wormed her way through the vines to the top. Then, after looking around, she stared awhile intently in a southeasterly direction, and called to me. Climbing more clumsily, I finally emerged through the vine-covered canopy, and described in the leafy distance what looked like the ruins of an ancient chimney—so mutely reminiscent of buccaneers. It would be there that Carl was digging. "Are you game?" I asked, and La Blanca not only nodded her high-held head, but again led the way.

The distance was not more than two or three hundred yards, yet it took nearly an hour by my watch for us to crawl through the barbed wire entanglements on that stretch of "no man's land." It would have taken longer if La Blanca had not found a furrow made by alligators through the thickest and thorniest vegetation. Reaching the ruins at length, it was abvious that they had been recently visited, because on one side the vines had been torn loose, revealing adobe bricks. The visitor had evidently wondered, just as I was wondering whether this pile of foliage might not be another mound. On the other hand, the vines might have been torn from the bricks by the Jefe's loup-garou. In all my calculations the creature that made the man-like tracks now had a place. Too big a place. I was constantly on the lookout for the Thing itself. It might have chosen these ruins for a lair.

"La Blanca," I called. She had rummaged around to the other side of the tower. "La Blanca!" No answer. Just seething silence. Not a titter anywhere.

Around the tower I tore through the vines, yelling at the top of my voice. Whiffed away. My God! Right where Carl had vanished. "La Blanca!"

This time there was an answer—a peal of laughter from the tree under which I was standing. I whirled round and beheld—her! She was pointing toward a pile of debris, which had been shoveled from a floor between two crumbled walls, to the eastward of the tower. The joy of seeing her, sitting alive on the limb, overcame the surprise that pile of hand-handled debris would have otherwise inspired, so I simply shook my fist at her and floundered through the damnable vines. Not even the pick and shovel, which lay beside the diggings, brought me back to earth completely. The rains had coated the tools with rust, but they were plainly quite new, for the Port of Spain labels remained in place. Carl's tools! Right here they had fallen from his hands. All this I realized, yet I had hardly recovered from the fright she gave me. What if she had been whiffed away? But she was safe so long as she sat on the limb.

An upraised slab of rotting concrete on the opposite side of the pile of debris made me forget La Blanca. It had been pried up and stood edgewise. The size of it! A sort of trapdoor. Obviously this trapdoor in the floor opened into a cellar, or possibly a treasure vault. A nauseating smell emanated from the square hole and kept me from looking directly into it. At a slant, however, the subterranean chamber appeared as dark as midnight. For the foliage shaded the hole, and there was evidently no other opening through which even dim light could reach the stinking interior. Holding my nose, I poked down into the gloom with the shovel, then La Blanca screamed. She screamed just in time to save me from a huge hissing head which boomed out of the hole. An anaconda! That much I realized the moment the gleam of its eyes met mine, and I caught the gleam just as La Blanca screamed. It was the scream, however, and not the gleam that made me leap sideways; for there was a fascinating power in those evil eyes, which would have held me an instant too long, if she had not screamed. Having leaped, I looked—saw the horrible head settle back into the hole—and turned toward La Blanca. My God! I would show her how grateful I was to her for keeping watch. In some way, I would show her. She was not there! On the limb, where she had been sitting, there was nothing but a few shreds from her skirt. Under the limb, however, I found her, lying unconscious on the ground. Had she fainted and fallen? Naturally, what woman would not? I picked her up as tenderly as possible, carried her to a wild lily pool and dashed her white face with water. But, instead of recovering calmly, she awoke in a frenzy of fear. The marks on her shoulders had been scratched, I supposed, by the bark on the limb as she fell, but she quickly convinced me they had been made by the claws of a beast, which her trembling hands pictured in frightful proportions.

The Werwolves

ONLY one shoulder was marked—four black and blue lines on one side, one line on the other—as if a hand had closed over the shoulder. Certainly the scratches looked more like nail-marks than claw-marks. The thing! Its purpose had been to carry her away, but her frantic efforts had broken the grip. If it had seized her by the hair, or throat, her struggles would have been vain. No human hand, however, could have clung to a bare shoulder, especially a hand reaching down through the foliage. At any rate, La Blanca was still safe. And my mission was accomplished. Poor Carl! No one had been present to scream when the anaconda struck at him. A horrible death. Snapped up and dragged down that loathsome hole, then swallowed slowly alive! Yet the fate La Blanca had so narrowly escaped seemed even more hideous.

"Come on," I said, and we crawled back to that blessed little beach.

After washing our hands and faces, La Blanca opened my pack of provisions and I walked the beach, wondering whether my mission was really accomplished or not. When Carl pried up the

slab the anaconda could not have been in the cellar, I reasoned, for there was no way in which a serpent as big around as a man's body could have entered. The anaconda had obviously selected the cellar as its lair since the opening of the trapdoor. So I was back at the starting point.

It was afternoon and I had learned nothing definite. Should I give up, return to Pedernales and sail for home? Every craven nerve in my body wanted to leave at once, and I knew why. I was afraid to remain. Yet if I should cross over with La Blanca and Juan, there would be no possible way for me to get back to the island. Juan's sore head, La Blanca's frightful experience, on top of the fact that I had violated the Jefe's hospitality, would harden the old headman's heart. So, if I were to do any more investigating, I must remain overnight and take chances on La Blanca, or Sam, coming over tomorrow to take me off. A terrible alternative. In a thick-walled Pedernales hut, I had heard the jungle roar at night, and those horrible howls still rang like deathbells in my ears. Here, there would be no hut, no one to call to, no protection whatever. A sickening situation, yet it had to be faced—by a coward who wanted to be brave.

Like gypsies we lunched, although I was not in a picnicking mood. La Blanca, however, had completely recovered her composure. Right after the lunch, she assumed, we would be paddling for Pedernales. If she liked the stuff in the cans, she bolted it, otherwise spat it out. A wonder-woman physically, but as unconventional as a child. Plucking a hair from my head, she matched it with one of hers, and showed me that they were two of a kind. Then, because I would not let her lick the scratches on my arms and hands, she pretended to pout until I finally permitted her to wipe the perspiration from my forehead. To tell the truth, she cooled my face with what was left of the white wine in her tin-cup. Suddenly dropping the towel, she threw her arms around my neck, wailing: "Werwolves! Werwolves!"

There they were, squatted on their tails in a semi-circle not more than a hundred yards away, grimly watching us. Nineteen all told. High in the shoulders, low in the hind-quarters, russet colored, grim and gaunt, they were indeed as werwolfish as it would be possible for canines to become. Thanks to my Mendelian studies, however, I knew at a glance that they were just degenerate dogs. The slave-hunting bloodhounds brought over by the buccaneers had gone wild with jungle canines, and these ferocious ferals were the descendants. Throwback hounds. No doubt about it.

Back down the ladder of dog evolution, these creatures had descended to the level where jackals, dholes, dingos, pariahs, wolves and wild dogs were brothers—just as wheat on abandoned farms reverts to the grotesque grasses from which wheat evolved. Ferocious naturally, for here in the haunts of dog-eating alligators and pythons, they had held their own so far as numbers were concerned, but paid in terms of reversion. How had they kept alive for two centuries? Pack organization and pack patriotism no doubt. Despite their savage aspect, however, they showed no inclination to attack us. Why? Were old instincts stirring in the backs of their wild brains? Were they sub-consciously remembering their masters? In no other way could I account for their behavior. Staring at us as intently as we stared at them, now and then they would raise their noses and yawn, but not one bark came out. That yawning gesture seemed to be nothing more than an inherited habit—canine homage to heredity, like the turning round habit of domestic dogs before lying down—for obviously these throwbacks were dumb. Nineteen dumb dogs, staring at the kind of creatures that still lived in their dreams.

La Blanca regarded them with fascinated terror. Yet when I stepped forward, she went with me, and laughed to see the dogs back into the bushes. When we retreated they crouched forward, and retreated again every time we advanced. It was like a game, but now I saw with alarm there was a jaguar looking on.

The Battle in the Brake

ORDINARILY, jaguars slept by day. But this was no ordinary occasion. The reminiscent smell of human beings must have disarranged feline as well as canine psychology; for, at a greater distance, the jaguar was behaving just as strangely as the dogs. In a less friendly way, it stalked out upon the long horn of the crescent beach, stopping occasionally to glare at the dogs and at us. A beautiful beast: lips, throat, breast and belly snow white with black spots; head, back and sides, a rich tan with black rosettes. Certainly something had turned the head of this terror of the trees, otherwise it would not have left the jungle to prowl along that treeless lick of land. Something must have made it forget its cunning. For what chance had it against the pack? Of course it could shake the life out of one dog as easily as a house-cat shakes the life out of a mouse, but how did it dare defy the power of the pack?

I glanced at La Blanca. She was standing beside me rigidly erect, her hand on my arm. Beneath her breath she muttered something in her tongue and nodded. She seemed to be expectant, rather than afraid. At that moment, however, a fiendish peal of laughter resounded from the bushes back of the dogs, and I felt her fingers tighten on my arm.

That hyena laughter was plainly a call to the pack. As if galvanized, the dogs whirled round, bounded into the bushes, and reappeared on the trail of the jaguar, led by a creature which looked like a man in the skin of a gorilla. Like a gorilla, it galumphed along, a club in one hand, the other hand now and then touching the ground. The line passed rapidly between us and the sun, which was dazzling bright, and I fancied the glare must have exaggerated the grotesqueness of the thing. So fascinated was I that I hardly gave the jaguar a thought until it turned. It turned, glared toward the pack for just one moment, then raced in a series of long leaps, not out toward the end of the horn, but toward the

bend, which brought it in our direction. Before it reached the bend, the dogs had it surrounded. It backed into a bamboo brake and stood at bay. Then around the circle of dogs the ape-like leader loped, continuing that lunatic laughter. He was obviously having his fun in advance of the fighting.

The jaguar made one further attempt to escape. It sprang from the brake, bowled dogs to right and left, and made the mistake of seizing one by the backbone, for that dog twisted round and fastened its fangs in the jaguar's throat. Shaking it loose, the jaguar leaped back into the brake and whirled again at bay. Now the leader's laughter changed to a hoarse staccato, which was plainly a call to the kill, for the younger dogs fell back and the grimmer ones closed in.

The affray was nearly noiseless. No barking, or yelping, on the part of the pack—just guttural growls and dogged determination. No whinings, or calls for help, from the bamboo brake—just hissings and out-flashings of paws, which sprawled one of the dogs on the ground, but the death of that dog made no impression on the pack, nor on the jumping-jack leader. The leader laughed louder and the melee began. When it ended the jaguar and two dogs were dead, but what did the leader care for the loss of two dogs? After pounding the skull of the dead cat awhile with his club, he galumphed back into the jungle alone, while the dogs came forward to stare at us and lick their wounds.

To me, the finest thing in all the fight was not the display of jungle fury, not the slavering mouths and gleaming teeth, not even the jaguar's desperate defense, but the devil-may-care courage with which these dumb dogs did their duty. Whether they feared the jaguar or not, they faced it and fought, regardless of consequences to themselves. God knows, I needed just such an example to stiffen my backbone. For the time had come to decide whether to return to Pedernales, or to remain overnight.

As to the loup-garou, I had formed an opinion which took some of the terror out of the idea of spending the night on the island. Instead of being a supernatural monster, "with the head of a man on the body of a beast," he was simply an atavistic man. A gorilla-like throwback, in whom reversion had done its worst. A much more extreme throwback indeed than Zambo Sam, or even the Russian Dog-man, or the Porcupine man, pictured in books on Mendelism. Because of his frightful physiognomy, some jungle judge had probably banished him to this forsaken island, where he had lost his reason—if he ever had any reason. At any rate, he was flesh and blood. A bullet in his hairy head would put an end to his lunatic laughter, if he became too much of a menace. A powerful lunatic, running at large, he might be responsible for Carl's disappearance. One would have to be on watch every moment.

For fear I might change my mind, I took La Blanca by the hand and earnestly tried to tell her my decision. She and Juan must leave at once to reach Pedernales before dark. Did she understand? We walked down to the dugout, finding Juan half awake. Dazed and irritable, he fancied I had whacked him on the head. To further the fancy, I picked up a paddle and threatened to use it again unless he left at once. It took a lot of loud talking and gesticulating, but I finally made them both understand. As white as the lilies in the pool beside the anaconda's lair, La Blanca stared at me, sorrowfully and admiringly. She seemed to think I was doing something brave beyond words. When she comprehended that I wished her and Juan, or Sam, or anybody, to come across for me tomorrow morning, she turned abruptly, stepped into the dugout, thrust a paddle in Juan's hands and shoved off. As the dugout took the waves, she turned her face and I swear there were tears in her eyes. She probably thought she was seeing me for the last time.

CHAPTER IV.

Alone!

AS the dugout disappeared amid the mist and undulating driftwood, a feeling of unutterable loneliness welled up in me. Was I here alone, definitely isolated from mankind, or was I dreaming? Nothing seemed real. Oh, the alienness of this island! An "Age of Reptiles" island. Marooned! Yes, marooned with a murderous throwback, who had tried to abduct La Blanca alive. Over the sighing tree-tops, more silent now than at any time during the day, a smothering atmosphere of unreality hung. Even the sun, sinking slowly into the hazy jungles on the western side of the river, looked like a huge angry eye. One could hardly see it, however, because of the wings. Wings which flamed like fire, for the red ibis were flocking to the island to roost. And here I was—stranded for the night. A wild Walpurgis night probably. Stranded possibly for all time. Why should I presume to believe La Blanca, or anyone, would come over for me? What was I to these people? The Jefe had warned me; he would shrug his sloping shoulders and sigh: "The truth I told him and he would not believe." As to Sam, had I not formally agreed, in the port officer's presence, that he was not expected to look for me, or to wait longer than ten days? Well, night was coming on. No use maundering around like a sick moon-calf. I must prepare for night. The clammy feel of it was already in the air. Despite nostalgia, weak-knees and nauseating odors from along the barricade, I must buck up and build a fire. One could at least start a fire. It would keep man-eaters at bay, and ghosts would avoid the light. And if Carl were yet alive, he would see it.

Humming a dreary dirge to keep my courage up, I dragged an ample supply of driftwood from the barricade, started a fire, made a pot of coffee, and dined on the remnants of the lunch. Then, amid a dazzling display of orange, yellow and red colors, the sun dropped out of sight, and here I sat in the thickening gloom, watching the stars shimmer out and listening to the croaking

of frogs, the grunting of alligators, the creaking of foliage freshening for the night, and the slithering sounds behind the barricade.

It was a moonless light, yet the dogs were visible; like hulking shadows they stalked out of the bushes and flattened themselves on the beach somewhat nearer than they had ventured during the day. Their presence made me feel a bit more secure. The jungle was becoming noisy, but the sounds were less alarming than I had anticipated. Perhaps because escape was impossible. I was cornered on a barren beach, between the jungle and river. All the same, I tried to make myself believe I was conquering fear. Howling monkeys? Pooh! I had heard them howl before.

The first time my heart skipped a beat was when something fanned my face. A wide-winged something, blacker than the night, which I glimpsed as it vanished. A few minutes later it returned, hovered for a time overhead, then as noiselessly as a shadow volplaned away. What a relief! It was only a bat, one of the Jefe's vampires. A blood-sucking bat, however, so I had better not fall asleep. When flock of wings fluttered into view, I picked up a stick and waited. But these creatures were not bats; they were moths, wide-winged wonders, almost as big as vampire bats. Fantasmas moths! How Carl must have thrilled, if they gyrated like this around his campfire! To see them singe their velvety wings brought back that sickly sensation, but this time it was not caused by fear. I still had control of my nerves and proved it by pointing a finger steadily at a star. Yes, I seemed to have myself in hand.

The next moment, however, a loud peal of lunatic laughter right behind the barricade made my damned hair rise on end. Tittering off into silence, it left me limp, mortified, panicky. Why, Carl would have laughed back at the lunatic.

To recover control of my tingling nerves, I walked around the fire, breathed the damp air deeply, beat my breast, tried to mimic the titterings and felt ashamed of the weakness of my voice. It was torture to have to pretend to be brave, to have to fight down this inborn cravenness, especially when I had almost convinced myself that I could control myself. In the midst of my forced bravado, I caught the glimpse of something so black that it looked like a shadow in the moonless night, sliding along the barricade. Revolver in hand, I might easily have shot it, or have frightened it away, but I did not think of shooting until it vanished.

Putting fresh fuel on the fire, I sat down on a chunk of the driftwood and tried to reason myself into a saner sense of the situaton. At the worst, this insane Thing could be nothing but an atavistic man. As strong as a gorilla no doubt, yet an armed man on an open beach, with firelight to see by, should not be afraid to face even a gorilla. The Thing was naked and unarmed. Aside from the advantage the revolver gave me, I had on hunting boots—pretty good weapons in a scrimmage with a wild man. Moreover, I was conscious of my own strength.

Twenty-eight years old, a fair boxer and wrestler, I should be able to knock out this throwback Thing bare-handed, provided I had the guts to stand up and fight like a white man. Did I have the guts? If the anthropoid Thing galumphed tittering at me, would my knees weaken and my shammed courage fail? Ghosts? Voices? Nothing like a specter had materialized, nor had I heard anything more voice-like than the titterings of that half human Thing. It was apparently the one thing to be feared. With the dogs on guard, jaguars would keep to the trees and alligators to their wallows. And possibly the Thing had no evil intentions. It might be moved by curiosity, or feelings of loneliness, or a hankering for companionship. Thus far it had only spied on me. Yet its spying must be actuated by insane malice. La Blanca, bless her soul, it had tried to carry her off. And there was sheer savagery in its laughter, without a tremor of humanity, as hard and heartless as the cachinnations of a blood-hungry hyena.

The Attack in the Night

IT was laughing again, from somewhere back of the dogs. Like the night song of howling monkeys, the ear-splitting derision rose to a climax and tittered off into silence. A frightful ululation to come from any kind of a throat, but this time, thank God, my hair did not rise. So pleased was I that I laughed back involuntarily—hysterically perhaps, for it was not easy to stop laughing. Let it come; I had gotten over being afraid of it. Annoyingly, however, it made no response. After listening in vain for more than an hour, I concluded it must have gone to its lair, and began thinking about Sam's voices and ghosts. It was midnight, the hour ghosts supposedly walked, but where were the ghosts? And where were those voices? To be true, there were bushes which behaved queerly and whines which sounded like wails, but it would take something more substantial to shake this new fine feeling of mine.

When the moon came up, flooding island and river with mellow light, I found it possible to whistle without a quiver. For some reason, however, the dogs were acting restless. As the moon climbed higher among the trees, they backed farther away, raised their hanging heads and yawned; they were obviously trying to bay the moon—a pathetic homage to the moon-baying hounds from which these dumb ferals had descended. Feeling fully secure in the bright moonlight, I sat down and relaxed. The only thing that kept me from dozing was a feeling that I was being watched.

Of course I was being watched—by the dogs and possibly by alligators, but other eyes were upon me also. And no difference which way I turned, something seemed to be slithering up behind. A crazy state of mind, I concluded. Hearing things which did not exist. Hallucinations. Was I becoming jumpy and losing this fine feeling of not being afraid? Why should I be jerking my head to right and left? I must calm myself, think of other subjects—La Blanca, for example. She had plenty of time to paddle across before sunset. And Juan, the greasy mop-head, had sobered up sufficiently to wield the stroke

oar. No use worrying about her. But would she come back? Well, in a few hours I should know . . . .

It may have been these dreamy speculations, or the moonlight, or the drowsing fragrance the jungle breeze brought to my nostrils, or the rhythmic plash of the waves on the beach, or the fact that the jungle symphony had sunk into a minor key, or just plain tiredness—something, at any rate, made me feel very sleepy. My chin between my hands, elbows on my knees, I must have slept, for I had no premonition of danger until a club whirred past my head. Without knowing what had happened, I leaped to my feet in time to sidestep the charge of the loup-garou. And as it stumbled over the chunk, upon which I had been sitting, out went my fist and sprawled it literally belly-down across the ashes and embers of the fire. Then foolishly, instead of picking up my revolver and ending matters, I gloated over the frenzied Thing until it scrambled afoot, and landed a straight from the shoulder blow in its grimacing face. It would have dazed a mule, but only staggered this Thing. A man might as well use his fist on a stone.

Howling or laughing, I could not tell which, it lunged forward and flopped its long arms around my waist, so down we went together. A sickening embrace, with its stinking breath in my face. And the bestial Thing was trying to roll me into the fire. My arms were free, however, and I managed to break the clinch and get upon my feet. Standing upon the defensive, I studied this beast as critically as a bullfighter studies his bull. No doubt about it: like Sam and the dogs, it was a throwback. But in this creature reversion had done its worst—produced an anthropoid figure of a man. With deep-set beady eyes, glowing like coals in the hairy face, it was also scrutinizing me, somewhat amazedly I thought, for I was still alive and had landed two blows which may have hurt more than I supposed. At any rate, instead of charging a second time, it threw back its head and let out a sharp blast of hyena laughter—not the insane cackling to which I had become accustomed, but a barking blast identical with that which summoned the dogs to attack the jaguar.

Seeing the pack slink forward, my heart stood still, and that sicky sensation, which I thought had gone for good, welled up worse than ever. At that moment, if the loup-garou had suspected it, he could have pushed me over with his little finger. But there he stood, leaning on his knuckles, waiting for the pack to leap to the kill. To my utter mystification, however, the dogs advanced only a few paces. They seemed to be torn between conflicting propensities. To obey or disobey the leader—that seemed to be the bewildering question in their wild brains. Turning in circles, they snapped at one another, sniffed, shook their hanging heads and finally squatted on their haunches. Again that uncanny cackle, louder and angrier than before, but the dogs did not stir.

For the Leadership

HOW was I to know that pack law permitted a rival to depose an old leader any time? Yet vaguely a suspicion of the truth popped into my head: the dogs apparently regarded this affair as a fight for the leadership, or mastership, in which neither the pack as a whole, nor its members, could take part. The man-smell in me and the man-smell in this ape-like human must have made us equally acceptable to their noses. And the old leader, sensing the situation more keenly than I, was now himself showing signs of fear. That yellow streak in him, even more than the merciful behavior of the dogs, energized me. My gorge was rising. No longer weak-kneed, I felt like fighting. Not to feel afraid—what a feeling! Instead of forcing matter, I stood there breathing deeply, getting stronger, bolder, madder every moment. Meanwhile, there stood the ape-man still leaning on his knuckles—naked, grimy, open mouthed—glancing furtively sideways, as if looking for something. The club perhaps. It was behind him. Let him spring for it. I would spring for my revolver, whch was behind me. The revolver in my hand would be more deadly than the club in his. Instead of turning to the club, however, he leaped at me.

Right and left, I landed on his bulbous nose, backed up and undercut. But, because he could lunge ahead faster than I could back away, I found myself going down in another bestial embrace. Then the fiend's bloody nose in my face brought back that damnable nausea. Saying to myself: "You've got to fight now," I tore loose and fought like hell. Fought with feet, as well as hands, and fell flat upon my back. For the fiend had grabbed hold of my right foot and was dragging me slowly toward the little inlet, which alligators used as a wallow. It was then that my strength failed.

The hunched back of the beast was all I could see. He was laughing now triumphantly. With my free foot, I kicked frantically, but my boot made no impression on that hairy rump. I twisted, cursed myself for going limp to the death this monster was dragging me to. Thank God, La Blanca was not here to. . . Something was jolting along under my back. Involuntarily, like a drowning man clutching at a straw, my hand closed round it. It was the gorilla's club. The club he had thrown at my head. A queer club—a bone! A large bone with a hammer-like head. Oh, the feel of it! I would do to this laughing beast what La Blanca did to Juan, but I must do it quickly and decisively. It was what she did with her paddle that gave me strength for the deed. That and the feel of the bone. Rising to a sitting position, I took the bone in both hands, drew back and struck like lightning. And the loup-garou never turned his head; he just stopped laughing, dropped my foot and staggered on into the river—from which no one emerges.

It was all over—but the dogs. Suspecting that in their noses a weak-winner stunk, I had sense enough to make a show of strength. And it was not all show, for I now felt strong and unafraid even of the pack. It was a new kind of courage, the sterling kind which had always actuated Carl. Talk about casting out devils! I had cast off fear. Rising to my feet, I brushed the sand from my clothes, stalked straight through the pack,

sat down upon my chunk of wood and shouted: "Come here!" Like a king on a throne, I commanded, and those dumb dogs fawned forward and dropped upon their bellies by the burnt-out fire. One crawled closer and closer, and a half hour later it was licking the bruises on my hands.

It was four o'clock by my watch. The moon stood over the island, the loup-garou was no longer at large, the werwolves were dozing at my feet, the denizens of the jungle had gone to their lairs, the day birds would soon be clearing their throats, all was silent, golden, serene. I walked to the island's edge, at some distance from the place where the laughing lunatic disappeared, took off my clothes and splashed myself with water. God, how glorious not to be looking and listening for danger! Wonderfully exhilarating the bath. I felt as converts feel while being baptised. That blessed bone!

Starting the fire over again, I spread my clothes on the warm sand beside it to dry, for I had given them a wash also, and picked up the bone. Then a creepy suspicion brought the sweat to my brow, and I wondered if my fears were coming back. Could this be a human bone? Firelight and moonlight confirmed my suspicions beyond the shadow of a doubt: this was a human femur! Judging by its length, a white man's thighbone. And the white man had been killed recently, for the organic matter was not yet dry.

As certainly as circumstances may decide anything, I concluded this bone belonged to my brother's skeleton. The realization, however, did not disturb me at all. On the contrary, I gloated over this avenging bone happily. It proved beyond peradventure that Carl did not die in the anaconda's foul lair. He had been killed more mercifully, more quickly, in the open air. Caught unawares, as a reckless lad would be, by the fiend that sneaked up on me. Still more gratifying, it was Carl, courageous Carl, that won the fight for me. A bone of his body had brained the beast that murdered him and saved me from the alligators.

My mission was assuredly ended. I was ready to leave Fantasmas Island. But would La Blanca come across again? Engaged to Juan. Someone should save her from that grassy mop-head and give her an education. How quickly she would learn civilized ways. No trouble getting her out of the jungle, but how about getting the jungle out of her? Anyway, she was white. Why white? All other mysteries had been solved scientifically. The werwolves were plainly feral hounds, the loup-garou an atavistic lunatic, the vampires jungle bats, and the voices had not materialized. But La Blanca! How could she be a mestiza, yet square-headed and white?

Mendelism! I shouted the word loud enough to awaken the dogs. It had popped into my head like a flash. An obvious explanation—so obvious that I had overlooked it entirely. Did not my own piebald mare, when bred to a sorrel stallion, once give birth to a pure white colt? Of course. La Blanca's father, the Jefe's son, was the sorrel stallion, her spotted mother the piebald mare, herself the pure white filly. Had I not seen brindle bulls and spotted cows produce prize-winning white calves? And cats: didn't Carl's tortoise-colored tabby, after yowling around with a yellow tom, fill a basket with kittens, one being permanently blue-eyed and white? Didn't I once pick a peach from an almond tree? If Mendelism could produce white colts and calves and kittens, it could produce white people in the same way. It could produce a peach-of-a-girl, also. If mestizo fathers and mothers could give birth to Indian papooses, they would also now and then give birth to a Spanish child. It was the law. Mendelian Law. For, when two strains mix, ancestors as well as parents are reproduced. What could be plainer? From the comely squaws the blue-blooded buccaneers seduced the mestizos had descended. Then inbreeding, doing its best and worst, shuffled and reshuffled the chromosomes, which predetermine traits and characters, and these mestizos, these human Mosaics, were the result. Like a player who once in a lifetime draws all the high cards in two packs which have been shuffled together, La Blanca happened to draw a full set of Spanish chromosomes, just as Juan and his kind had drawn full sets of Indian chromosomes. So she was the one white kitten in the whole miscegenation. A true daughter of old Spain. No wonder she could look me level in the eyes.

It was five o'clock, the darkest hour before a tropical dawn. But what did I care for darkness now? This splendid feeling of courage, why, I hoped something would put it to the test. And something did put it to the test. Voices! Somewhere near at hand a woman was calling. certainly, anywhere else it would be taken for a woman's voice, but here! "Wee-lo-lo! Wee-lo-l-o-o!" the voice was wailing. An echo? Impossible; the jungle would smother it. A parrot. Whoever heard of a wild parrot mimicking a human voice, especially before daybreak? It must be a woman; yet there were no women on this haunted island—unless the loup-garou had a crazy mate. Or was this a lost Lorelei, trying to wee-lo-lo me into the woods?

Listening and speculating, I patted my breast, because I was standing the test. Of course I was immensely interested, but not afraid. The wonder of this unafraid feeling! An hour ago, such human outcries would have paralyzed me. Now I hoped the crying creature would materialize. And it did materialize. From among the mangroves at the end of the barricade, where La Blanca and I had tied the dugout in which Juan slept, a shadow assumed the shape of a woman. A lovely looking Lorelei, whom any man would have welcomed. The dogs had raised their heads, and the bristles were rising on their backs, which seemed a bit strange, for they had lived here long enough to be on friendly terms with ghosts.

"Down!" I shouted at the dogs, just as a second apparition crawled from beneath the mangroves and rose up beside the first. Then a hoarse voice boomed and I shouted back. It was a shouting matter. For La Blanca and Sam had sailed over to take me off.

THE END.

The Struggle for Neptune

BY HENRIK DAHL

JUVE

(*Illustration by Paul*)

Smoke flared from the flyers and a shell burst in the midst of the attackers. Scales and monsters flew in every direction.

THE king of Neptune, one "Dutch" Hoss, late of Sing Sing prison and now paroled to Dana Manson, stood, upon a rocky plateau on the planet Neptune. Not an ordinary king was Dutch. His clothes hung in shreds, the rags draping themselves almost gracefully over his stolid figure. A two months' beard covered his face, and his hair was raggedly in need of the barber's shears. Now he stood on a boulder and surveyed this small portion of his vast domain.

To the south and east the plateau became a valley of purple hills and gullies skirted in the distance by the edge of the yellow-violet jungle. The purplish waters of a great lake to the west of him heaved and gurgled incessantly among the rocks on the shore. The northern aspect of this vast land presented a picture of great billows of roaring steam, rising from an outcropping of pure radium. The black canopy of clouds above admitted almost no sunlight. The only source of illumination was the radium under the surface of the ground, and this, due to the fluorescense of minerals in the soil, was ghastly violet. Hence the king's face was the hideous color of dough in a violet light, with a tinge of sickly blue.

Surrounding him were some five thousand of his native subjects. How many more there were he could not say. These Neptunians were huge savages, rivaling in weight even the largest elephants. Their bodies were gorilla-like, except that they were covered with heavy scales which rattled and clattered with every movement, being composed of an oily substance intermixed with grit and thick and heavy enough to offer resistance to a machine gun bullet. Their mouths, wide and hideous, increased the ferocity of faces which possessed a single eye in the centre of the forehead. Their great arms hung to below their knees, and terminated in three-fingered hands which were so powerful that they could with ease wrest a human arm from its socket.

Yet Dutch was unquestioned king of this grotesque horde, for he held in his hand a stick tipped with red crystal—the only spark of red color on this steaming, moist planet. Perhaps in the remote past an unaccountable fire had broken forth, and the natives had suffered some serious casualties when oily scales caught fire. At any rate, the red crystal was an object of superstitious fear and the symbol of super-Neptunian power and authority — the crown jewel, as it were. Only he who was favored by the gods could touch that dreadful crystal with impunity. Only he who dared to touch it was deemed worthy to possess the absolute authority of a monarch.

HENDRIK DAHL JUVE

IN this story, sequel to the "Monsters of Neptune" which appeared in the Summer Quarterly, our good author treats of some of the lighter sides of interplanetary expeditions and explorations of strange worlds. Yet, despite the humorous sides of the situation in which "Dutch" finds himself, there is much truth in the picture that Mr. Juve gives us. If we were to attempt to conquer an alien planet, the force of numbers alone would overwhelm us. Strategy, and a keen understanding of psychology of the inhabitants would be the greatest weapons that our explorers could use.

However, as Mr. Juve suggests, a question of morals arises here. Were our explorers justified in precipitating these peaceful Neptunians into civil war and carnage, destroying great numbers of them in order that we should extract their great deposits of radium? The question is not easy to answer for the Neptunians have apparently little use for the precious stuff and earthlings have. We invite the comments of our readers.

And now Dutch faced his subjects, armed only with this spark of red. He waved it at the monsters for the sheer joy of watching them fall back in terror. He was absolute ruler of a planet; master of thousands of monsters, any one of whom might easily have swallowed the scepter and then made a meal of Dutch. But such is the bondage of superstition.

As he watched a doughnut - shaped space flyer emerged from the clouds of steam and flew rapidly toward him. It hovered in the air and then settled gently to the ground. Dutch waved his scaly subjects away from the flyer as the steel door banged open and his friends, Dana and Dr. Gailman, stepped out.

"Are you sure that you'll be all right alone with this mob until I get back with the fleet?" Dana asked apprehensively.

"Sure. All I have to do is wave this jewel at 'em and they just about jump out of their scales. I'll have 'em bringing my meals to me in no time. This beats laying around in the pen."

"I suppose it does. But what would you do

if they should find out that that crystal isn't dangerous after all?"

"I never thought of that. But you said that it has probably worked for millions of years, so why shouldn't it work for two or three months longer? Anyway, they ain't wise to it yet so we should worry."

"It probably will continue to be effective. But, they aren't accustomed to having a soft, juicy king. They might take a notion to eat you and elect a new king. You had better keep that crystal with you every minute."

"Don't worry about me! You're only president of the Consolidated Interplanetary Transport Co. But just look at me! I'm king of the whole planet! What I say goes! When you get back to dig radium I'll have these huskies all ready to run picks and shovels."

"That's great—but how are you going to tell them?"

"Well—I aint thought of that, I—"

"Just a moment," Dr. Gailman interrupted. "I can take care of that."

Going into the ship, he presently began to squeal and bellow and they knew that he was making dictaphone records of the language.

Alone!

DR. GAILMAN, sole survivor of the last of many ill-fated exploring expeditions, had been saved by the natives for some special feast, but had been rescued by Dana and Dutch. During his long wait he had learned most of the simple language of the Neptunians.

Presently he returned with a reproducer and several records which he handed to Dutch.

"Here are records of most of their language. It shouldn't take you long to learn it, since it is very simple."

"Fine, thanks," said Dutch. "Now I'll be able to tell 'em what to do."

"And you look like a scarecrow," said Dana. "Don't you want some new clothes? There are plenty in the ship."

"That's a good idea. This suit is kinda dropping off."

Dutch handed his scepter to Dana and went into the locker room of the ship. He turned on the electric lights and found a red silk pajama affair—the prevailing fashion of the day. After a bath and shave he donned the new clothing and felt more like a monarch. When he emerged he found that Dana had spread the camp equipment and canned food over the damp ground in orderly fashion.

"Thought that you might feel less like an animal if you had a camping outfit," he said.

"Fine. We've been living in the jungle so long that I didn't think of that."

"Say!" he exclaimed, looking down at his suit. "What's the matter with this outfit? It was red when I put it on! I thought a red suit would be good to help keep these huskies away from me."

Dana laughed. "There is no red light here to be reflected from the suit. That's why it's nearly black out here."

"But this jewel is red!"

"Certainly. But that red is due to fluorescence, if you know what I mean."*

"Well, just so it stays red, we should worry."

"If that's all," said Dana, "we'd better be getting under way. Whatever you do, Dutch, be careful. And be sure that you retain control so that when we come back you can protect us. The best way to do that is to keep out of trouble. See that none of the Neptunians happen to touch the crystal. If they should find out that the crystal is harmless, our chance of getting anywhere with our radium mine is gone. And the only way we'd ever get you back to the earth would be to take three or four of our big friends along."

"So long. Don't worry about me. And whatever you do, don't forget to bring some smokes."

His two companions entered the ship and closed the door. Dutch stood, with some private misgivings, to be sure, watching the ship leap into the air and disappear into the canopy of clouds.

For a full minute Dutch stared at the vanished flyer and his last opportunity to return to the earth for a long time. It seemed to take him that long to realize that he was alone among savages. But, stoic that he was, he presently shrugged his wide shoulders and then set about the work of pitching camp. He decided to establish his palace beside the shallow river south of the plateau. Although he dared not drink the violet water, he felt that there would be some comfort and feeling of home if he could hear the gurgle of the river. Then, too, the air was not so heavy out here in the open as in the jungle. But there was little choice, for the air was damp and hot, permeated with the smell of growing and decaying vegetation. As Dana had said, "It smells like an old rotten cellar with a new cedar door."

The king motioned several of his subjects to pick up his equipment. At first they did not understand, but after some difficulty and demonstrations he managed to convey the idea. Five of them gathered up the stores and followed him across the plateau, the others drawing up in a vast procession of clattering scales. It was a triumphal march.

He forded the river and then selected a site for his camp. Having motioned his porters to deposit their burdens, he then waved them on into the jungle. They obediently rattled away and disappeared into the growth of trees and vines.

The monarch set up his tent and arranged his little stock of provisions. There was a gasoline camp stove, a cot and bedding, cooking utensils and a folding chair. When all was in order the king sat down on the edge of the cot with a sigh of contentment. Automatically reaching into his pocket for his cigarette "makin's", he remembered with disappointment that he was completely "out".

"Well, I'll—" he began and then shrugged. "Better learn some language."

He set up the phonograph and shoved a record into place. Dr. Gailman had substituted a horn for the usual tubes and the king now sat back listening to the squeals and bellows by which he was to make himself understood throughout his

*Note: The particles shot from the radium in the ground strike the crystal and cause it to glow with induced light, in this case a red glow. In the ordinary sunlight of the earth the crystal might have been clear as plate glass, or any other color.

kingdom. Slowly a grin spread over his pasty face.

"Oh, my-gosh! What a lingo! But I might as well start learning it now as laughing at it."

Setting the needle at the beginning of the record and having played the first bellow, he imitated it carefully, and tried to associate it with its meaning in English. Then he stopped the machine and repeated the word over and over until he was certain that he knew it thoroughly, treating each subsequent word in the same. Thus began the education of the king.

CHAPTER II.

Trouble

FOR several days all went well with the king. He detailed several of the monsters to act as personal servants and others he selected for his body guard. Although he had studied the language diligently, he now found necessity forced him to learn more rapidly and easily. Since food was of prime interest, he learned the names of fruits and vegetables as quickly as possible. The king found delight in sitting before his tent and bellowing orders which sent scaly monsters into the jungle in search of delicacies. They heaped half ton piles of delicious and strange fruits about his tent, never daring, however, to approach nearer than fifty feet to the dreaded crystal.

The monarch sampled different fruits, selecting those which pleased him most and ordering the rest taken away. Since he dared not drink the water of the river he ordered more *grooons*, a transparent fruit about the size of a football and which hung like a huge drop of water. The king punctured the skin with the can opener and emptied the juice into a pitcher. The taste reminded him of a combination of strawberries and apricots. It had just the right amount of tang, and he was further pleased to find that the drink warmed him ever so slightly.

There were other fruits which he decided to order frequently. Great pods, some five and others twelve feet long, furnished him with vegetables which he found were just right for boiled dinners. He took another drink of *grooon* juice and reached for his "makin's".

"Rats! If I had a smoke now, life would be perfect. But I better learn some more language."

He leaned back in his chair, listening to the groans and bellows from the phonograph, mimicking them as best as he could. His servants stood about listening and watching him curiously.

Thus continued the life of the monarch for several "sleeps" as he put it (for there were no days and nights with which to reckon time.) One day, however, he noticed that one of his servants and one of his guards were acting queerly.

The king had orderd a fresh supply of *grooons* and *glaoons* (a variety of vegetable pod) but one of the servants refused to move in response to the order of his king. This savage, Gaambee by name, had from the first seemed reluctant to salaam before this foreign usurper of the throne, but this was the first sign of open rebellion.

Dutch became angry. Seizing his red tipped scepter, he rushed savagely at the rebellious monster, shouting as best he could in their language.

"Move!" he ordered. "To the jungle and bring me food! Go!"

As he advanced, waving the red crystal, the monster's eye opened wide with terror but he stood his ground firmly. Encouraged, the king leaped at the savage, expecting to see the Neptunian cower and then slink away into the jungle to fulfil orders. But the great, elephantine monster lay down upon the ground and refused to move. He gazed terror-stricken at the red crystal, but seemed to be ready for whatever fate befel those who were touched by the fateful red light. He had the courage to die for his convicting.

The king stopped abruptly. He was nonplussed. He realized that if he should touch the scaly giant with the red spark the Neptunian would find that he was but the victim of a superstitious fear, and Dutch would shortly be reposing in the monster's spacious stomach.

Dutch went back to think it over. Here was something he had not anticipated. Evidently one of his subjects had become philosophical and was ready to sacrifice his life in passive resistance to his rule. He must show his authority—but how? To rush upon the monster meant certain death. To tolerate such gross insubordination meant the loss of his kingdom, and still worse, the loss of Dana's life.

The king was in a dilemma. He had no weapon with which to slay the rebel nor had he the means for tying him up. Although Dutch was in no immediate personal danger, the rebellion might spread when the others saw the success with which Gaambee resisted sovereign orders. Although the king did not know the technical details, here was the beginning of the passive resistance of subjects that rides in advance of national upheavals. All that he realized was that he must not touch the balky savage with the crystal, but that he must do something and do it quickly.

To his right stood the six members of his bodyguard on duty at this time. An idea filtered through his stolid mind.

"Guards!" he bellowed. "The king is insulted! Here I am trying to civilize you and make something out of you and this man aint got enough sense to see it. Eat him up or throw him into the lake or make him obey orders! It aint the king's job to touch a rebel!"

The guards started forward to obey, but one of their number, an exceptionally huge young savage named Meebroo, leaped in front of them and held up his arms to stop them. The other five stopped short but kept an eye upon the crystal in the hands of their sovereign.

Dutch listened to Meebroo talk to them. He told them that they should fight for their rights and positively refuse to obey the orders of this foreign usurper. He harangued them for their lack of pride. Were they going to kill one of their own flesh and blood just because a soft little animal such as they had eaten on other occasions, ordered them to? Were they so degen-

erate that they were going to subject themselves to foreign slavery for the rest of their lives? He became blasphemous! Perhaps the red light was not sacred when in the hands of the foreigner!

This last remark spread horror among the cowed five. Never before had so audacious a remark been made and they watched Meebroo, evidently expecting to see him struck down by some supernatural agency. But nothing happened.

"See," he continued. "Nothing harms me! Are you going to obey orders?"

The others stood irresolute and Dutch decided that it was time to interpose.

"I hold the jewel," he bellowed. "I am the king! Don't listen to those infidels or something will happen to you. Don't you know a nation divided against itself aint nothing but a mob?"

The five irresolute guards were terror-stricken and started to advance but the one held them. He told them that they had nothing to fear, while he himself probably expected destruction momentarily. When nothing happened he became bolder and more arrogant. He told them that they were fools to listen to this foreigner. He told them to run into the jungle if they were afraid to be near the king, but not to obey his orders. And he won. The five stood.

Dutch was desperate. He wanted to run and hide in the jungle but thoughts of Dana stopped him. He realized that should Dana and his men land upon the planet with the natives in control, they would be promptly eaten. He sat down upon his wobbly throne to ponder the situation.

Combat!

THE more the king pondered the situation the more he was convinced that more lives than one were at stake. There were his own shape and dignity to safeguard, but still more important, the life of his only friend, Dana, to preserve. He had no weapons, but even if he had, they would have been ineffectual anyway. He realized that he was helpless to enforce his orders, for these two insurgents, either of whom could eat him without feeling overfed, were beginning to pierce the thin shell of his authority. He stuck the scepter upright in the ground and leaned back to think, but it was useless.

Meebroo was drawing closer! Experimentally, evidently. An overpowering desire to run and hide in the jungle asserted itself, and the king forgot everything but that hideous mouth and hungry eye. He arose from his camp stool, picked up his scepter and a few articles which he might need in the simple life of exile. Now that he could not see the cruel mouth of his enemy he again thought of Dana! The only man who had befriended him and treated him as an human being and equal! No! he must not run!

The king replaced the articles and again started for the chair before the tent flaps. In his worry and fright he stumbled over the five gallon gasoline can and sprawled headlong on the ground. He sat up and rubbed his bruised shin and regarded the offending can. Fire! They had used it before!

The monarch went into action. He seized a tin cup from the folding table and filled it from the can. He looked out at the insurgent who was still lying on the ground eyeing him curiously and just a little triumphantly. Dutch found a match and, holding the scepter and cup of gasoline in the same hand, advanced upon the prone rebel.

"Do you still refuse to obey orders?" he roared.

There was no answer.

"Go to the jungle and bring me food!" Dutch ordered. Still the rebel refused to answer or move. The others stood about watching, frightened and curious. They evidently detected a new note in the king's voice.

"I'll give you one more chance," the king bellowed. "If you don't beat it I'll call the great red light down on you and then where'll you be?"

The rebel cringed in terror but stubbornly refused to move. His passive resistance had been successful thus far, and he evidently considered his victory a permanent one.

Dutch struck the match and dropped it into the cup of gasoline. It puffed slightly, and then began to burn vigorously.

"Go!" he ordered again.

When the monster refused to obey this final command the king threw the blazing liquid over the prone savage. Spreading out over the scales, the gasoline instantly leaped into a fierce blaze and a cloud of black smoke. The rebel leaped to his feet with a deafening bellow of terror, but the damage was done. The oily scales burst into murky flame.

Dutch turned and fled to a safe distance and then stopped to watch. The living torch rushed this way and that trying to escape the scorching flames, but it was useless. A wide circle had cleared as the other monsters drew back in terror. Eagerly the flames licked at the scales, hissing and sputtering. The monster was a mass of fire. A great cloud of black smoke followed him as he ran about the cleared space.

He weakened, staggered. Righting himself, he took another step and then pitched heavily upon the king's tent, flattening it to the ground with a crash of tent poles and furniture. The king groaned.

The gasoline can, crushed under the impact, now added its contents to the conflagration and the fire leaped into a roaring pyre of destruction.

Dutch looked toward the wet, dripping jungle —his future home. The future looked soggy indeed. He was now without matches and gasoline to enforce his orders. Nothing remained but the red-tipped scepter.

CHAPTER III.

More Trouble

THE last glowing embers of the tragedy were sending up a thin smudge of burning flesh when the king turned toward the yellow-violet tangle of wet trees and vines. The savages, terrified by the frightful display of sovereign dis-

pleasure, groveled in their attempts to please their mighty king, but kept at a very respectful distance. Meebroo, the guard, alone seemed to be unconvinced. He remained unbending and contemptuous. Dutch watched him closely, but that was all that he could do about it.

The king was sorrowful. Not that he bemoaned the loss of the rebel—there were plenty of inhabitants—but he bewailed the loss of the comparative comforts and dignity of his camp. He had gone half way to the jungle when an idea occurred to him. Slowly the plans formulated and he again issued orders. He would build a brush hut!

He turned back to the river and selected a new site. While some of his subjects were in the jungle gathering brush and vines he ordered others to clear the ground. With their powerful fingers, other dug two holes some twelve feet apart and two feet deep. The monarch then went to the jungle and selected two small trees which he ordered to be broken down and snapped off to the proper length. These were set into the holes. A ridge pole was then slid between them, thru the forks, and the whole covered with a thick layer of brush. He then ordered a large rock taken to the door of his hut, to be arranged as a seat. He was again the mighty monarch who possessed the only house and throne on the planet.

In all dignity Dutch sat down and ordered fruits brought from the jungle. Again the orderly routine of existence began.

For three "sleeps" Dutch, although without material luxuries, lived in all the despotic life of an Oriental potentate. His subjects groveled in their attempts to please him.

Only the young giant, Meebroo, positively refused to obey orders. Although he did not dare attempt to do the king personal injury, his philosophy did not permit him to bow down to orders. He maintained his regime of passive resistance despite the horrible fate of his co-conspirator. At first the king chose to ignore him entirely so far as open attempts to break down his resistance were concerned. Nevertheless, he realized that here was a nucleus about which a fatal canker might grow.

It was upon arising from his fourth "sleep" that the king stretched, yawned, and then ordered fruit. His servants were on their way, and the king was about to seat himself upon his throne when he stiffened. Meebroo had acquired a convert!

This new addition to the camp of the rebels was a huge, hot tempered member of the king's own servant mob. His name was Grroo. He was younger than Meebroo but even larger.

Dutch was furious. He arose from his throne too angry to be dignified. He rushed at the new rebel, waving his scepter, as he bellowed orders that the young servant go immediately to the jungle.

Grroo was terrified. He cowered before the wrath of the monarch and was on the point of terror-stricken flight when Meebroo fortified him with words of moral courage. Dutch tried to overwhelm the new convert with sheer force of bluster but the elder rebel laid hold upon his new ally and reassured him. Dutch was now almost upon them and dared not go farther. This did much to calm Grroo; for he seemed to lose some of his fright, and a light of dogged determination came into his eye. He assumed an attitude of resigned persistence.

Realizing that he had lost his one opportunity, Dutch returned to his throne where he sat pondering this new situation as doggedly as they faced him. His breakfast arrived and he ate heartily of raw fruits, for he had no fire.

After the meal the king began anew to consider his dilemma. Now this particular king was not accustomed to resort to strategy when confronted with trouble. Before coming to Neptune and into his kingship, it had been his policy to go into instant and violent action and then to do his arguing with his foot on his enemy's chest. But here he was confronted by beings so ponderous that such tactics were obviously foolhardy. Hence this unusual strain upon his mental pro-

Often while reading newspapers at his far-away home on the earth, Dutch had wondered about this thing called diplomacy. He had looked upon it as the admission of weakness and the cloak of graft, but now he began to see it in a new light, and to wish that he had had occasion to develop this unique and strenuous method of settling disputes.

For on hour he cast about for some inspiration. Never before had he spent so much time over one little problem. He wondered why Meebroo chose to regard him with distaste. What could he gain? As if this question were a key that unlocked the vast storehouse of his subconscious, Dutch suddenly realized that Meebroo had his eye upon this job of being king. He realized that the rebel was not motivated by any desire to better his race or to relieve them of bondage—there was no such high thought anywhere on the planet—but to shift the advantage of this bondage to himself. This ambition was probably enhanced by the prospect of a kingly meal should he succeed in overthrowing the ruler.

Strategy!

THE king wondered what was to be done next, now that there were two of the enemy to contend with. What did the so-called diplomats do when they were in a snarl like this? Shift the responsibility and pretend to divide the spoils! But the king was a man of action. Scarcely had the thought flashed through his mind when he leaped to his feet and addressed the two rebels.

"The king knows that Meebroo and Grroo are brave and wise. It aint right that they should work—they should boss the rest. I have decided to make them chiefs. We'll divide the tribe into two smaller tribes and Meebroo can boss one half and Grroo the other. Of course I'll be king of the whole bunch and you'll be my lieutenants."

Dutch paused to see the result of his words. The two rebels had become suddenly interested. The idea seemed novel to them but it appealed to

their limited intelligence. They nodded vigorously with a great clatter of scales.

The king sent his servants into the jungle to call the tribe together and then sat down to wait and listen to his two lieutenants discuss the matter.

Although Dutch could not yet understand all their words, he gathered from their talk that a rivalry existed between them. It happened that they were both of the younger set and unmarried. Now that they had suddenly become men of power and distinction they wished to marry but contention arose when they discovered that they each wished to marry the same female, the community belle.

Dutch listened and grinned.

"Sounds just like the time Jimmy Nichols and me had a scrap over the Jenson girl and she settled it by walking home from school with another guy. Wonder where she is now?" The king said this aloud, since he often talked to himself to relieve his loneliness.

The discussion of the lieutenants was interrupted by the approach of the first members of the tribe from the jungle. The word had spread rapidly and now thousands of the scaly monsters poured from the tangle of vines from all sides until the din of their powerful voices and clattering scales was terrific.

Dutch directed them to assemble on the plateau, and then, picking up his scepter, he followed the seemingly endless stream. They formed a dense crowd on the level ground. The king estimated that there were at least ten thousand present. Still others were coming across the hills and fording the river. He waited.

Never until now had the king realized the vastness of his kingdom. He wondered how many of the beasts there might be on other continents but had no means of knowing. Some fifty thousand were now gathered, waiting patiently for his words. Fifty feet away stood his two lieutenants and his body guard. Dutch, unable to make his voice carry to the vast multitude, addressed himself to his lieutenants.

"Go through the bunch and divide them in two," he ordered. "Those on the left side will be under the orders of Meebroo and the rest under Grroo. Then tell 'em what it's all about."

Dutch, having given his orders, swelled out his chest just a trifle, for it thrilled even this stolid king to command so vast a herd. Then too, he was delighted by the turn of events.

The two went through the assemblage of monsters, clearing a lane. There was a great commotion and clatter of scales intermingled with a bellowing that reminded Dutch of a stampede of Texas long horns. At last the herd was divided and the commanders ordered silence. Gradually the hubbub subsided and the lieutenants explained the situation to the two groups. Dutch grinned delightedly when each leader enlarged upon his greatness in the eyes of the king.

"Maybe that'll hold 'em awhile. Who'da thought that they'd take me up on it?"

CHAPTER IV.

Thunder!

THE leaders were waxing large and boastful and all was progressing nicely when a new element of discord entered into this division of spoils. Since females and "calves" as Dutch called the young, were in the groups, as well as males, the female under dispute between the two leaders was present. And since she could not be in both groups at the same time, trouble was pending.

The friction rose when Grroo discovered her in Meebroo's crowd. Instantly he forgot his own greatness and clattered over to her. Without ceremony he seized her giant "hand" and hustled her toward his own tribe. But this did not meet with the approval of Meebroo and he intercepted them. The ensuing argument lasted for fifteen minutes, becoming more personal and intense as time elapsed. Dutch became alarmed.

"Let's settle this argument like gentlemen," he bellowed, "Suppose we let the lady decide and see who wins?"

They did not understand until he explained that she might choose one of them. The idea was entirely new but finally they agreed to try it.

"Choose," Dutch ordered.

The female in the case hesitated, looking first at one and then at the other. Suddenly she pointed her finger at Dutch himself.

The ignominy of the proposal staggered the king. At last he found his voice.

"No! No! *I* don't want you! Choose one of the lieutenants."

Again she hesitated, casting amorous glances upon Dutch, but he waved his scepter at her and she fell back in terror.

"Now choose!" he ordered.

Too terrified to disobey, she instantly pointed to Grroo. The triumphant suitor again seized her hand and proceeded to conduct her to his tribe.

Now the idea of the woman choosing the husband seemed to be the only solution so far as Grroo was concerned and he wished to drop the argument at once, but Meebroo seemed to think that there was something wrong and expressed himself emphatically. Again the argument became hot. The two bellowed and squealed while the woman under dispute stood aside, frightened and astonished.

The king became alarmed once more. He shouted orders that they desist, but they could not hear his puny voice through the uproar. Finally he drew back.

"What if they do fight—one might kill the other and that'll leave only one to bother with," he shrugged.

He drew farther away from the quarrel for it had now approached the point where the science of hurtled solids might be employed. He listened to their argument.

Suddenly there was a pause in the vocal barrage. Meebroo had thought of a wonderful idea.

"Aren't we each leaders of half of the tribe?" he challenged. "Suppose we lead our tribes into

battle and let the winner have the girl. No one except the one in the right can possibly be the winner."

Grroo pondered this challenge. He possessed the female through her own choice and that was the only possible brand of justice that he could countenance. The idea of might being interchangeable with right had suddenly became too crude for this particular philosopher.

"I don't think that might makes right," he said in effect. "But if you desire trouble, of course I'll defend my property to the best of my ability."

Meebroo turned to his tribe and fired them to battle with a speech that would have done justice to the best agitator. He pictured to them the luxury of enslaving the other tribe. He told them of the great feast they would have after the battle when enemy dead were strewn over the field. Never before had the spoils of war been so attractively pictured to potential cannon fodder. He told them of the insults that had been heaped upon them by their enemy. He told them that their very existence was at stake.

Under his fiery words the mob grew restless. Their eyes gleamed with hate for their mortal enemies. They began to sway in unison to the rhythm of the emotional words of their leader, emitting howls of rage and calls for blood. The scales rattled more and more loudly until the voice of the speaker was lost in the vast crashing thunder. Even the roar of the steam from the radium was drowned out.

At the psychological moment Meebroo sprang toward the enemy and then deftly got out of the way. It was the last straw. The vast assemblage of monsters surged into action.

Dutch was terrified. Never before had a king run so fast. He bounded over the plateau like a frightened deer until he felt safe in the distance.

Stopping to view the battle, he saw that two armies, men, women and children, were surging and milling in a hopeless combat while the two commanders stood aside and shouted encouragement. The din was frightful. There was the clatter of millions of scales clashing and rattling, and the deafening uproar of fifty thousand tremendous voices heightened by cries of rage and hate and pain.

Boulders clouded the air and occasionally the giant contenders themselves were flung bodily over the heads of the others. The ground itself shook with the impact of heavy feet and bodies.

Dutch, despite his stoicism was appalled. His little diplomatic ruse had grown to the proportions of an earthquake. He tried to think of some means of stopping the carnage but the terrific din confused him and he gave it up.

The warriors became heated. Steam rose from the struggle and a strong odor of fish permeated the air. Gradually the mob strung out into a line as one side tried to surround the other and they in turn reached out to forestall the move. The fighting line grew longer and longer until the fighters were spread over five or six miles of plain.

The center of the line began to bend. The warriors of Meebroo were gradually forcing the enemy back. The fighting becoming more intense, the army of Meebroo began to shout with redoubled force as it perceived that it was triumphant. Boulders flew thicker and faster. Grroo's whole line wavered and then broke and fled in wild confusion. The ground was strewn with dead and wounded.

Gradually the shouting died down and the uproar ceased. Meebroo came up to his king, triumphant and glutted with victory.

"Meebroo is right," he gloated. "Grroo was wrong. Woman should not choose their mates—it is proved."

"Clear the dead off the field!" Dutch ordered. He had the upper hand of the situation and meant to keep it.

Meebroo clattered away and bellowed orders. Quickly the dead and wounded were gathered up and the vast procession filed away into the jungle.

From previous experience, Dutch knew where they were going. Deep in the jungle was a huge grotto where gruesome ceremonies were held.

The Victors Celebrate

ALTHOUGH the king cared nothing for their ceremonies, he was uneasy. Seldom it was that Dutch anticipated trouble, but the odds against him were so stupendous that he dared not but follow his subjects. Since there was nothing left of his palace equipment, he turned toward the jungle and followed the victorious army. He crossed the stream and then wound around the hills until he came to the great tangle of yellow-violet trees and vines. So dense was the growth that the natives maintained tunnels through the dripping mass. The king selected one of the tunnels into which the army had disappeared, and plunged after in pursuit.

Had this jungle been on the earth, the interior of the tunnel would have been dark as night, but here the light came up from the ground, thus maintaining a uniform intensity of illumination that was equal to that of the plain.

The path had been churned by countless feet into a thin, creamy mud in which the king waded ankle deep. But it was this same disagreeable mud which guided him through the maze of tunnels and cross passages, for the sides of the recently used course were newly splashed with dripping mud. Occasionally he heard the bellow of warriors deep in the jungle but so far in advance were they that it was only the louder sounds that reached him.

For three "sleeps" the king penetrated deeper and deeper into the mysterious jungle, living on the fruits, which grew in abundance, and bewailing the fact that his personal servants were not present to administer to his wants. At last he heard the tremendous thump, thump of the great drums and knew that he had not far to go.

The booming of the drums became louder as he advanced and after two or three miles he could hear faintly the rattle of the scales as they clattered in unison with the drumbeats. Two more miles and he came to the turn in the tunnel that revealed the grotto.

A monster room had been torn out of the living jungle by the natives. It was equal in size to four city blocks and about two hundred feet high in the center. Yet so dense was the matted vines of the roof that no opening revealed the black canopy of clouds above.

The dead had been piled up in the center of the amphitheater and a part of the tribe of Meebroo was dancing to the rhythm of eight monster hollow-log drums as eight musicians beat upon them with huge boulders. The logs emitted a strangely resonant boom that shook the walls of the grotto and this, together with the clatter of scales and the thump of hundreds of feet, made the din deafening.

The king went into the room and stood against the wall for a time. Steam rose from the bodies of the dancers and the place smelled like a fish stall in July.

Suddenly the tempo of the drummers changed and the dancers filed out of the grotto while another group of the victors took their places. Dutch knew that the others were now resting and that this ridiculous dancing would continue for at least five days.

Now the king noticed an alarming development. Mingled with the dancers were some natives whom he recognized as belonging to Grroo's crowd. Far from being ejected by the victors, they were accepted as if trouble had never existed between them. In fact, their recent difficulty seemed to have been forgotten entirely.

Eventually the king tired of watching the stupendous dance and went back into the tunnel. He walked for a half hour and then burrowed into the dense jungle beside the tunnel. After kicking and shoving he cleared a space and lay down to sleep. For this stolid king there was nothing like a good nap to dispel troublesome thoughts.

It required five regular "sleeps" and as many naps before the proceedings came to a climax. Dutch returned to the grotto when he heard unmistakable signs in the increased speed of the dancers. The entire tribe and most of Grroo's followers were now in the chamber, dancing desperately. The place was hot and moist and the fishy odor was almost choking. Added to this was a new odor coming from the center of the hall.

Whereas the sound had been terrible at the start, now that they were all present, it was thunderous. The very ground shook in unison with the drums.

Gradually the drummers increased the speed of the dance until the natives were contorting frantically. Dutch knew that the time and the meat were almost ripe.

Now a cold perspiration oozed out of the king. Part way around the side of the grotto and out of the mad swirl he spied Meebroo and Grroo conversing on the friendliest of terms!

Dutch slipped into one of the tunnels and hurriedly found cross tunnels until he was on their side of the grotto. Quickly he ran to the edge of the hall where he could be near his rebellious lieutenants. They were standing beside the tunnel mouth, bellowing loudly at each other that their voices might be heard above the din. Dutch listened.

"We were fools," Meebroo was saying. "We fought over a girl only to have her killed in the battle. At least, now we can be friends and combine against the despot. He was right when he said that a nation divided against itself aint nothing but a mob."

"And did you see when he called the red light down on poor Gaambee? He had something in his hand other than that scepter. I have been wondering about it ever since it happened. I believe that it was some other magic than the red wand. I have been wondering if the rest of his magic was not destroyed when Gaambee fell over his tunnel and crushed it. I have noticed that he has not used the magic again although he should have."

"I have been wondering about that too. As soon as the feast is over I myself will test him. I am no longer afraid of the red light. It seems to me that it amounts to nothing. We can then get control of the nation and live as we should live."

The other philosopher agreed. "But we must not let the common herd know of our discovery. To blaspheme as we are apparently now doing might result in our being eaten."

CHAPTER V.

The King Flees

THE king drew back into the tunnel. His insight into human and animal nature told him that his reign was rapidly drawing to an end.

He was on the verge of flight when suddenly he was arrested by an abrupt silence that permeated the place. Not a scale rattled; not a breath stirred. The jungle became a place of profound silence. But only for a moment. As abruptly as the dancing had ceased pandemonium shook the air and jarred the ground. The king ran to the mouth of the tunnel and watched the feast, forgetful of his own danger. The entire mob, Grroo and Meebroo included, had pounced upon the aftermath of battle and the loosened scales flew in all directions. Presently violet bones followed the scales.

For a half hour the king enjoyed his disgust, and then it was too late. The wild feast was over and Meebroo, still gnawing on a bone, spied the king standing beside the tunnel. With a bellow that rang high above the turmoil, he threw away the bone and charged at the monarch, Grroo close at his heels.

Forgetting his late adventures in diplomacy, the king turned and fled ignominiously down the tunnel. He sped around a turn and then gathered his wits out of the chaos of panic. He realized that he could not hope to outrun the monsters. There was but one thing to do and he did it hastily. Finding a spot where the jungle was less dense than usual, the king burrowed out of the path in a most unkingly fashion. And just in time. Scarcely had he concealed himself than the two rebels clattered by.

Dutch knew that he was comparatively safe for the time being, for he recalled that these monsters

seldom left the tunnels except in search of food. But that did not alleviate the danger into which Dana might fly at any moment. The more he thought of Dana the more desperate he became. He felt that he was not fulfilling a trust—the only trust that had ever amounted to anything. And now that the two rebels had combined against him there was no room for diplomatic experiments.

Perhaps for the first time in his life, Dutch was sorely worried. He thrust aside a mad impulse to go out and battle in the good old way against frightful odds. He looked at the bright little crystal in the end of the scepter and then thrust it from him with a snort. He lay pondering for a time and then, regretting his rash move, he again clutched the harmless weapon, for he realized that it was still effective against all except the two rebels who had abandoned their passive resistance for the more effective regime.

Quietly he listened to the other members of the tribe disperse through the many tunnels. When the clatter of their scales was lost in the depths of the jungle and all was quiet, the exile pushed his way into the tunnel and turned toward the north. One thought was uppermost in his mind. Before the rebels found opportunity to take over the reigns of government and eat the king, he would warn his friend away from the perils which lurked on every hand. Even though they might not dig radium and revolutionize transportation on the earth, at least Dana's life might be saved and possibly his own.

"Damn!" he groaned. "Sitting around in Sing Sing beats this! I'm beginning to miss the iron scenery."

As rapidly as possible and with a minimum of "sleeps" the ex-king traveled toward the plain where he knew that Dana would land his fleet of ships. Occasionally he was forced to burrow out of the tunnel to avoid natives who were searching for him. Fortunately for Dutch, the monsters could not move without a loud clatter of scales while he himself could slip noiselessly along.

At last he came in sight of the clearing but now his heart fell. Along the edge of the jungle natives had been stationed. As far as he could see was that circle of sentinels. He drew back into a clump of brush that stood isolated at the edge of the plain and relapsed into a policy of watchful waiting.

Presently he spied Meebroo and Grroo coming toward him. When they came within a quarter of a mile of his hiding place he could follow some of their conversation.

"He is sure to come here again and then the guards can locate him and we will have a chance to try out that scepter." Meebroo was saying: "Then too, the other infidels might come back to get him and we can have a great feast."

He missed part of Grroo's reply, but picked up some of it. "....reasonable that they would not leave him here. Surely you reason correctly."

There followed some low tones that were probably too blasphemous for the ears of the mob.

But the ex-king was tired and sleepy and soon had passed into oblivion. Even a sorely beset exile cannot remain awake forever.

For two "sleeps" Dutch remained on watch. Occasionally he crept from his hiding place and went into the jungle to gather fruit but always returned to his hiding place for from here he commanded a view of much of the plain.

As time passed he became more restless and worried. Try as he did, he could figure out no plan to regain control of the natives. He had found from experience that for the best results, shrewd diplomacy required two factions. But now the entire tribe was solidly united under the leadership of the reconciled rebels. And his friend Dana was due to return at any moment!

Another "sleep" passed and still he found no solution. He had thought of catching one of the rebels alone and trying to split up the merger but the two had become as chummy as Damon and Pythias. Added to this inconvenience, was the danger of being eaten before he could have time to say anything. Dutch idly wondered if they found solace in each other's company now that the common object of their hymeneal ambitions was dead.

But time was slipping and each moment brought catastrophe closer. Dutch had racked his mind for hours but only one solution presented itself. He decided that he would watch until he saw one of Dana's space flyers drop through the black cloud. At first sight of the ship he would run out from his cover and give himself up, trusting that this would so divert the attention of the natives that they would not notice the ships. He figured on the further chance that Dana might happen to see Dutch run out and be eaten and then deduce what had happened. Not a bright prospect, truly, but the only one Dutch could evolve and the only chance he saw for preserving his friend's life.

Death and Life

WITH his mind fully made up and his plans ready, Dutch lay back in his hiding place, watching the black canopy of vapor. For hours he lay, not daring to leave in search of food.

At last he was rewarded. A black object dropped cautiously through the cloud ceiling and hovered for a moment as though scanning the ground beneath. Dutch leaped to his feet in readiness to rush out into the open. He took another glance at the ship to make sure that her telescopes had cleared the vapor since he wished to assure himself that they would see his bloody signal.

For an instant he hovered between sacrifice and amazement. There was something familiar yet strange about the ship. He waited. A red light suffused the ship and the cloud. The flyer dropped lower and Dutch drew back into the brush, too amazed to think, even with usual slowness. Instead of the doughnut shaped craft from the earth, this was spherical. On top was a tower which emitted a powerful red light. Then he knew! He had seen them often. It was a space flyer from Mars! The red light was characteristic of them when in flight.

The ship dropped lower and the light from the nullifier dropped below the cloud. The whole plain was suffused by the ghastly red light.

The craft sank slowly to the ground and then, when the nullifier was shut off, the blaze of red light went out. Doors clanged open and several of the queer little egg-shaped men from Mars came

out of their flyer to survey the countryside. Dutch had often seen these men on freighters plying between the earth and Mars and had never ceased to marvel. Their egg-shaped bodies were fitted with long slender arms and legs. But the most amazing thing about them was the single, compound eye perched on the end of a spike protruding from the top of the neckless head. Since the eye was spherical they could see in all directions at the same time. No wonder their ships were odd.

But the ex-king was thinking! Here again were the two factions for his simple diplomatic manipulations. So rapidly did thoughts and plans flash through Dutch's mind that he was startled and confused. But one thought was uppermost. Greater diplomacy hath no man than he who sacrifices the lives of his enemies for his friends and himself.

The Neptunians had all drawn into the jungle and not a single being stirred. Dutch had seen Meebroo and Grroo scurry into a tunnel some distance from his own and he now dived into a cross tunnel and sped rapidly to the east. At last he came to the tunnel into which the two rebels had gone. He found the two talking in low tones. Twenty or more of his subjects huddled nearby.

Dutch rushed up to the rebels who were now so occupied with this new intrusion that they did not think of philosophizing over the remains of the now more familiar Earthian. He brandished his scepter and began his speech.

"Now you guys are in for it..." he said in English and then recovered himself and switched to their tongue. "Now you guys are in a sweet mess. Those are the terrible men from Mars. They have come to enslave you and your people. If they get control over this planet they will work you and your kids for ages. They are greedy and dangerous. They think only of their own good. They must be destroyed."

"But," Meebroo objected, "didn't you see the great magic; the sacred gleam that lighted up the whole place? It is the most powerful magic we have seen. We shall be destroyed!"

Dutch waved the argument aside with a snort. "That aint magic at all. It can't kill like this wand I'm holding. You have seen me call down the red magic. Their light aint magic because they are infidels. It is only a light. Meebroo and Grroo, you are the mightiest of the land except me. I make you leaders who are to go out there and kill the men of Mars. Your names will be talked about for a long time. Your kids and their kids will say that you saved them from slavery."

But Dutch was inspired. He appealed to other emotions than vanity. He appealed to appetites as well.

"The men of Mars are soft and juicy. Think of the great feast you will have? They can't hurt you and you can eat them without waiting for scales to get loose. Go, and lead the gang to the big feed!"

Meebroo and Grroo bloated with dignity and self pride. But the ex-king was a man of action. Without waiting for their assent he called loudly for others to come and presently there were over two hundred of the clattering monsters assembled.

"Meebroo and Grroo are great guys. They are going to lead you to a great feed," Dutch told them in loud tones. "The terrible men of Mars have come to make slaves of you and I am going to keep you free. Now go!"

The deluded leaders needed no further urging for they now stood undeniably far in advance of their fellows. They bellowed orders with pomposity and then led the column out of the jungle and down into the valley of hills.

CHAPTER VI.

Battle!

DUTCH stood at the edge of the jungle to watch the proceedings. He was a little conscience-stricken over the trouble he was causing. "Still," he mused as he attempted to still the mocking voice of conscience, "Dana is in danger and he's worth more than two ship loads of men of Mars put together. Oh, well, the Martians would get eaten up anyway so why do more with 'em than just fill bellies?"

The attacking column had strung out and was winding through the little valleys among the hills. Sometimes they were lost to his sight and then they would reappear farther in the distance. Dutch could see them ford the river and climb into the valleys on the other side of the stream. Their clatter was becoming lost in the distance.

Evidently the men of Mars had not seen them for they continued to pour out of the ship and wander farther and farther from the flyer. Dutch reasoned that they could not hear the rattle of the scales for they were too close to the roaring steam from the outcropping radium.

Other Neptunians now began to join the attack, pouring out of the jungle from all sides and dropping out of sight among the hills.

The ex-king climbed a little hill that he might view the impending battle with greater ease. He dared not go closer for he feared that the Martians might use a death ray. Although the ray had no effect upon the battlers of Neptune, Dutch himself respected the apparatus with all the fear of past experience and training.

The two leaders of the attack were just leaving the last gulley and emerging upon the plain. Dutch became tense. He saw the Martians point to the attackers and apparently hail one another. They ran toward their ship but some of them had wandered too far and were cut off. Before the victims could enter their flyer and close the doors the ponderous horde was upon them.

A brilliant point of green light appeared on the side of the space flyer. Another and another blinked on and Dutch knew that the death rays were playing upon the scaly monsters. He imagined the consternation of the Martians when they found that their most effective weapon was useless.

Some of the Neptunians had gained the door and were fighting for entrance while others were catching and eating the stragglers who had been cut off. Other hordes of Dutch's kingdom were drawing up and throwing themselves into the fight.

Suddenly a puff of smoke flared from the side of the flyer and almost immediately a shell burst in the midst of the attackers. Scales and monsters

flew in every direction. The ex-king was amazed. He did not know that the Martians had adopted the cannon of the Earthians.

The Neptunians fell back under this unexpected attack but Dutch could see two of them waving the others on again. He judged that these must be Meebroo and Grroo, heroically garnishing their names with glory for future historians to struggle over.

Another shell was fired. It struck one of the leaders fairly amidships and scattered him in a glory of spectacular fireworks.

The attackers appeared incensed over this wanton destruction for they surged in a savage mob that swept everything before it. Two more guns opened rapid fire and tore great gaps in the advancing tide but they might as well have tried to dig a hole in the ocean. The gaps immediately filled up and the Neptunians trampled over their dead as they rushed savagely on.

Dutch was appalled. There was nothing refined about this carnage he had instigated, yet it was more effective than he had anticipated.

The green lights had blinked out and the ex-king knew that the Martians had turned off their death rays and were concentrating upon their guns.

The Neptunians gained the door and attempted to enter. But the Martians had hastily mounted one of the three inch guns just inside and now it went into action. Although they could not get the door closed against the three Neptunians who held it open, they could defend the opening. The gun tore a great hole in the advancing column. Almost instantly the Neptunians closed in and continued forward but the gun spoke again and another gap appeared as if by magic. Again the attackers closed in. But they were nearer to the door and now two of them got in before the next shell tore through the ranks. The gun suddenly went dead and the horde surged into the flyer. One by one the guns became silent. Dutch imagined the feast that was under way behind the steel shell of the space flyer.

All's Quiet

THE hubbub subsided and Dutch recovered himself. He decided that it was safe for him to take the situation in hand and assume the glory.

He bounded down the hill and ran through the valleys among the hills. Quickly he forded the river and then gasped up the other slope. At last he gained the plateau, just as the triumphant Neptunians were coming out of the ship, gnawing bones and bellowing triumphantly. Dutch ran up to them and commanded their attention with a wave of his scepter.

"Where are Meebroo and Grroo?" he asked.

"Dead," one of the Neptunians bellowed.

A great peace came over Dutch. Indeed, the battle had been a greater success than he had dared anticipate. He reveled in his good fortune for a moment and then bethought himself of his duties.

"These terrible men of Mars came to make slaves of you," he bellowed boastfully, "but I have delivered you. I have saved you the trouble of being slaves. I've come to make a great nation out of this. We're going to dig radium and help the Earthians get around faster. Look at me; I hold the red light and show you how to keep out of slavery. I am king.. a great king!"

The victors were deeply impressed. They grovelled before their benevolent king. They tried in every way to show their appreciation.

"Now," ordered the king, "roll this ship into the lake."

A thousand willing shoulders pushed on the steel flyer and rolled it to the crest of the slope. Another shove and the sphere rolled down the slope, gathering momentum until it hurtled out over the lake and broke the surface with a tremendous splash. Slowly it sank amid a great confusion of boiling foam and bubbles.

"Now," the monarch commanded, "pick up all the bones and throw 'em into the lake."

This was done with much groveling and attempts to please.

"Now pick up your own dead and beat it," he ordered.

When the vast procession had clattered into the jungle to another orgy of dance and feast in the grotto, the king selected a rock on which he sat down to rest and congratulate himself.

Many "sleeps" went by and the satiated monsters returned to do homage to their king. And the king taught them many things.

At last Dana returned with his fleet. Twenty doughnut shaped flyers broke through the black cloud canopy and fluttered gently to the ground. A steel door in the flagship banged open and Dana himself ran out. He shook hands with the monarch of Neptune.

"It's good to see you again," he greeted. "I have worried about you ever since we left. Did you have trouble?"

"Not a bit," said the king. To prove it he waved his scepter three times and fifty thousand monsters drew into line and bowed until their foreheads touched the ground.

Dana was impressed.

"Did you see anything of a ship from Mars?" he asked presently.

"No," said the king. "Why?"

"Nothing, only they had a big jail break there and the escaped prisoners stole a space flyer. I thought that they might come here since every planet has been warned by radio to watch for them. There is a little matter of a hundred thousand dollars reward for their capture."

The king staggered a moment and then looked out over the placid lake. Then the king became placid. "Oh, well, I couldn't spend it here anyway," he muttered.

"Beg pardon," said Dana, "I didn't catch that."

"I..I asked you if you brought my smokes," Dutch started.

"There are a hundred thousand cigarettes in number two ship."

"Oh boy! Lead me to 'em. Gee, everything that I try to do turns out big and fine! Let's go!"

THE END.

The Secret *of the* Tomb

By R. Crossley Arnold

(Illustration by Miller)

On each table lay a glass case; in each lay an Egyptian, with elixir in his blood. They had been sleeping for centuries.

I SAT complacently reading in my study, heedless of the storm raging outdoors. My butler had retired more than an hour before. The clock on the mantel was striking the half hour. Glancing up I saw that it was eleven-thirty; I had to leave for London the next morning at six.

I put down the medical journal I had been reading and arose from the deeply-cushioned chair. And at that moment the phone bell in the hall rang sharply.

I am a physician by profession and I certainly was not particularly eager to be called out on such a night as this. Reluctantly I crossed the hall to the phone. The flash of the lightning and the crash of the thunder were terrible.

Taking up the receiver I gave the usual "ello". The voice on the phone startled me. It was the voice of Alfred Stewart, a very dear friend of mine, whom I had supposed until that moment to be in Egypt.

"Al," I said, "when in thunder did you get back? And why have you waited until now to tell me!"

"Sorry old man, I ju"—crash!, a bolt of thunder stopped our conversation momentarily.

"As I was saying," he resumed, "I just arrived an hour ago; you're the first to know that I'm back."

"Yes, Al," I said, "but I can hardly hear you for the static interference."

"Donald, for God's sake! I am not paying social respects, I want to see you immediately. I came all the way from Egypt to talk with you. You'll have to come to my apartments immediately at 117——St."

"But, good Lord, Al, I can't now, you see—" but he had already hung up.

I was, at first inclined to think he was well, a little "off", but his tone was urgent, serious, pleading. I rebelled at going two miles on a wild night like this, but somehow I knew I had to, and that I would.

I put on a storm coat and rubbers and swallowed a whiskey and soda. Putting on my cap I descended to the street. It was wild and deserted, the street looking like a canal. I proceeded upstreet, the wind whipping the rain in my face. I was filled with resentment toward Alfred Stewart.

After covering half the distance on foot, I finally managed to hail a cab. Arriving at 117——St., I paid the driver and proceeded up to the door. I delivered a series of hard knocks. The door opened and before me stood my handsome friend in a smart smoking jacket and finely pressed trousers.

My manner was exceedingly brusque, not the customary attitude in which to greet a long absent friend.

"Al", I said, "why on earth must you play me a trick like this; what have I done to deserve it?" My mood was slowly softening under his presence.

He laughed lightly and took my coat and cap. Coming back to the room he offered me cigarettes. Lighting one himself he started to pace before the fireplace. He seemed under a high nervous tension.

I eyed him closely. He seemed the same old Al in all but one respect; the happy carefree look was gone.

He stopped his pacing and drew up a chair close to mine. His hands fidgeted nervously with a magazine.

"Donald, I don't know where to begin. It all isn't clear yet even in my own mind. My God! it's terrible, impossible."

"I say Al, how about informing me as to why I was called here tonight. Really, I should like to know."

"Donald, you will gain more terrible information from me this night than in all the other nights you have ever lived.. In the first place, I could confide to no one else what I am about to tell you. If I did I would be considered crazy or called an abominable liar. Of course there are others who know of what I am about to relate to you but they are in Egypt, ever watchful. They are not in England.

"Listen and I will tell you the most incredible story you have ever heard, so impossible that sometimes I think I'm in some weird fantastic dream. But first, Don, old man, pledge me your assistance in this terrible deal. If you ever

R. CROSSLEY ARNOLD

IT is a well known fact that ancient Egypt was one of the original centers of civilization, and that much of our knowledge of the physical universe we owe to the Egyptians.

But many secrets that the Egyptians possessed are still mysterious to us—for example their method of preserving their dead for five thousand years, the method that they used to build their gigantic pyramids, etc. And it is quite possible that many more powers of nature were known to Egyptian scientists and perished with them.

Suppose it were possible for us occidentals to penetrate into the heart of the scientific knowledge possessed by the Egyptians. What marvelous things we might find! For example, it is not a far fetched conclusion that if they knew how to preserve their dead against corruption, they might have known how to preserve their living people against death.

This is the theme that our author takes, and we must say that he has an astounding knowledge of his subject, and is able with it to give us a fast-moving and thrilling story.

wanted to help your fellow man, now's your time."

I hereby set down as correctly as I can Alfred Stewart's story of his terrible discoveries.

An Unexpected Meeting

I WILL go back two years (Stewart began) back to a certain night I'm sure you remember well. That evening, not long before I left England, we were discussing a topic familiar to you, microbiology. We were discussing, I believe, a certain bacillus, and its relation to domestic animals and man. A scientist at that time told of the terrifying results of a newly discovered poison, a product of "a certain bacillus," so powerful that a tiny spoonful would bring swift death to a million people.

Well, I mentioned to you the terrible results that would follow the spread of such a bacillus. Little did I realize that night that I was destined to make the terrible discoveries I have. Thank God, however, that I came across them when I did, though I am as yet unable to do anything to remedy the terrible situation as it exists.

That night, walking home, I kept thinking of this bacillus, though I don't know why, for I'm an archaeologist, not a biologist. Arriving home, I proceeded to my study. Pulling down a book dealing with the lower forms of life, I let it fall open as I sank in my chair. The place at which it fell open caused me no thought then, but many times since I have thought of it. That passage described bacilli that might appear apparently lifeless and inert, but when exposed to certain favorable conditions became active and resumed their normal life functions.

A week later while glancing through an evening paper I saw a Cairo dispatch headline that immediately claimed my attention.

Doctors Puzzled by New Mysterious Disease
Lungs and Eyes of Natives Affected
All Cases Prove Fatal

This headline strangely affected me. Ordinarily I would have paid no attention to it, but my mind had been dwelling on such things for the past week and this news somehow fascinated me.

Returning home I read through the entire article. It seems that the mysterious malady had seized some of a group of Egyptian natives who had just returned from an archaeological expedition. Only five natives were affected. Over a hundred men had worked for the expedition and only five had been stricken. Government inquiries proved that the natives who were stricken had lived under the same conditions as those who were not affected.

Shortly after this I had occasion to go to Paris. While there I went with a friend to the Louvre to see some recent additions in the Assyrian and Egyptian rooms. While we were examining a rather peculiar mummy we made a chance acquaintance with a merry little fellow. He was an Egyptologist and very enthusiastic. On learning we were archaeologists of a sort he was beside himself with delight. He talked English fairly well but when he became excited he diverged off into French. His name we found to be Dr. Paul Peri.

We wandered to different exhibits as we talked. It seems that Dr. Peri was very indignant with certain of our foremost Egyptologists. He had written a paper on the biological knowledge of the ancient Egyptians, a paper which had caused considerable unfavorable comment.

As we talked we wandered back to where we had met and I called Dr. Peri's attention to the peculiar mummy case. It did not follow the pattern of the period and the hands on the case held a scroll. Below the arms of the case were figures that were not, as far as I could see, according to the usual Egyptian manner. There were several figures apparently in a temple. One carried something that looked like a chemist's test tube. Two other figures were standing before a table on which lay the body of another person apparently dead, but the scene portrayed wasn't one of embalming. Specialists of the museum could not give a satisfactory answer for the figures.

I asked Dr. Peri what he thought about it, and he immediately said it was a scene in some unknown Egyptian laboratory. Upon questioning him further he admitted he couldn't give a really plausible explanation.

As we left, Dr. Peri invited us to his apartment for dinner. Having nothing else to do, we accepted. After dinner, as we sat with our wine and cigars our conversation started along scientific lines once more. While Dr. Peri was showing us some of his rare and curious objects, he popped a question that came like a thunderbolt out of a clear sky. He asked us to join him in a trip to Egypt. We both said it would be impossible, but my friend double-crossed me by telling Dr. Peri I had nothing to do but follow my archaeological pursuits and that I had more money than brains, anyway. As a result was that Dr. Peri concentrated all his efforts on me. When I left his house I was booked to sail for Egypt within the fortnight.

Without bothering you with details we will proceed to Egypt. We did not stay at Alexandria but moved up to Cairo immediately. It took us nearly a week to arrange our affairs and to get our equipment in readiness. Dr. Peri wished to start immediately for certain "step-pyramids."

While in Cairo I made inquiries about the five unfortunate natives and learned that all had died under most peculiar circumstances. I also learned something else that did not help my peace of mind; the natives who had died had been with an expedition that was working in the very place to which we were going. Somehow I did not like the place, though I had never been there.

Finally, the last of our equipment arrived and we organized our expedition. From the surrounding district we hired ten Arab and Egyptian "boys" who had all been with archaeological expeditions before and were experienced in this work.

When we finally set out I had a feeling, or rather a premonition of making much more than solely archaeological discoveries.

CHAPTER II

Forebodings of Evil

ON THE second day I happened to notice three of the Egyptians conversing together. To this I paid no attention whatever until I accidentally caught certain words. The men were of course not speaking in English, but I understood enough of their dialect to grasp what they were saying. What I heard was this, "evil place, many die, camel die, too, ah, evil."

I passed on without indicating I had overheard them. But the conversation troubled me for superstitions among the men are apt to break their morale.

The next day I called one of the three to my tent. He was suspicious but I allayed his fears. After talking with him for a while about our equipment I fired a question at him quite unexpectedly. "Of what were you talking last night, of evil places and many dying?"

He appeared flustered at first but regaining his composure he looked straight at me and replied,

"It is true master, many die. The government knows not or lays the death to other things. But the Gods are angry with desecration of sacred things. It is an evil place."

"What," I said, "is an evil place, this?"

"No master, the tombs to which we go."

"How, what, what's that? Say, man, what are you talking about.

"It is not wise to go to the tombs now. The dead are angry."

"Enough of this! Go back to your tent and keep your mouth shut on such matters hereafter."

The man looked defiant for a moment but he turned and went out. A new problem faced me. Ideas such as his might turn out very harmful. More than one archaeological expedition had failed because of increasing fears of the natives. I determined to take the matter in hand immediately.

I first thought of calling Dr. Peri's attention to the trouble we faced but knowing how excitable he was I decided to deal with the men myself; and the quicker the better.

I sent our tent boy to gather the men together. When they were assembled in front of my tent I stepped out before them.

"Every one here," I snapped. Being answered in the affirmative I continued, talking to the Egyptians first. "You men were hired to assist in this expedition. You knew where you were going. You accepted. Is this the first time you ever visited a tomb? You willingly accepted the advanced pay. You have been well treated so far. Now, when we near our destination you shirk! You let your superstitions overcome you. You would like to go back now and leave the expedition stranded here. No! by all the Gods you ever gave fancy to, you're going to stay here. The first man I catch doing what he shouldn't will be dealt with very severely." I fingered my automatic as I spoke these last lines.

I told the same thing to the Arabs and then dismissed them. I had seen surprise written on some faces, but now they all knew where they stood. Some men would have thought my methods unwise and would have tried diplomacy. But to my mind such cases need a firm hand.

That evening old Dr. Peri asked me if everything was satisfactory and I nodded so enthusiastically that the old duffer returned to his tent beaming. The next evening just before sundown we came in sight of our destination. It was growing too dark to proceed further so we struck camp immediately.

After dinner I lit my pipe and walked out of my tent. It was cool and above me the sky glistened with myriad jewels. It was a clear night such as one finds only in a desert. I walked about two hundred yards past our camp and looked back. Some of the men were seated around a low fire. A light shown in Dr. Peri's tent where no doubt he was busy with his notes.

Then I glanced off to the west at the silhouettes of the "step pyramids" where we were going. There they stood—mute symbols to man's vanity. Four or five thousand years ago the men that built them ruled this land. Their names were known in all the civilized countries of their time. Their word was law, their armies maneuvered on this very desert. To their subjects they were gods. They caused these tombs to be built for them; temples, obelisks and great stone tablets, thinking their glory would live after them. True it has, in a sense, but in a manner quite different than the old kings of Egypt imagined. Their kingdoms have passed through many hands since they have gone. Their bodies lie shrunken or falling into dust, the work of their magical embalmers losing its battle with time.

Although I respect the advances made in civilization by the ancient Egyptians, I could not help but think of the vanity of their ideas about themselves.

As these thoughts ran through my mind, I forgot all about the desert and my surroundings. Increasing chilliness brought me back to earth. I buttoned up my jacket and started to turn back. But as I did I saw something that caused the pounding of my heart to quicken.

The Mysterious Light

AS I turned I was facing the tombs across the desert, and as I looked I saw a light, a weird glowing phosphorescent light. I stood rigid and watched it. It moved! It seemed to travel a few feet above the ground toward one of the pyramids.

Suddenly it went out as though extinguished; and I gazed at darkness. Though I was cold, I began to sweat and I started to run for the camp. When I was almost there I ceased running and started to think. What could I say? I could not let the men know I had been frightened by a weird light and Dr. Peri would think I carried a flask of spirited brandy. After all, I thought, there was probably a plausible explanation to that strange sight.

Walking over to Dr. Peri's tent where a light was still burning inside, I looked in. The old dodger was writing as though his life depended on it. He never saw me and I dropped the flap door

and went around to where some of the men were still sitting.

I called our tent boy to me and inquired if any of the men had left the camp in the last hour. He shook his head. No one had left the camp all evening except myself. I walked away in deep thought. Then what was the meaning of that light? I felt sure that someone carried it, but who! No one in our camp, and there had been no other people here that I knew of since that last expedition had returned.

I entered my tent in a troubled state of mind and then suddenly remembered my workman's sinister account of the place. I did not sleep well that night, being troubled by strange dreams.

I awoke the next morning little refreshed for the day ahead of me. While dressing, the incident of the night before ran through my mind and with it, the Egyptian's words, "it is evil place, many die there."

When I completed my toilet I went to Peri's tent. He gave me a cheery greeting and then noticed my haggard appearance.

"Aha! You did not sleep so well. In love?"

"No," I laughed, "not hardly; just didn't feel so well."

"You would like the tonic, yes?"

"No, no tonic. I'll be all right soon."

"Well, sir, it's your disease not mine, but remember we have much work for today."

After we had breakfasted I returned to my own tent to arrange things for the day. We had decided upon moving ahead immediately to where we were to establish our permanent camp during our investigations. I had to always handle our equipment and its movement myself as Dr. Peri would only be in the way.

Along about ten in the morning everything was ready to move. Coming up to what we thought was a desirable and convenient place, we decided to make our camp there. In the early forenoon one can be active but around one o'clock the heat grows intense. I, however, kept the men going until we had completed the laying out of the camp, with the exception of a few minor details.

After satisfying myself that everything was all right I walked over to Dr. Peri. "Well Doc, we settled down in good time, don't you think?"

Peri nodded. Then I put a sudden question.

"Dr. Peri," I said, "what do you think was really wrong with the five men stricken by that peculiar malady?"

"Bah! put no belief in the malady, they worked under bad conditions no doubt."

I said no more but walked toward the objects or our research. Although I had not been in this place before I was familiar with the order. I had gone up the river to Memphis, where in Gizeh I had explored around the pyramids of the Old Kingdom Royalty.

The pyramids are surrounded by the so-called mastaba tombs of nobles and officials. The word mastaba is Arabic and means bench, and it well describes the flat-topped, steep-sided super-structures of these tombs. Within the mastaba is a chapel, this being sometimes expanded into a series of rooms. Here the priests raised prayers to the gods and here food offerings were left. The dead themselves however lay in sarcophagi far underground, in chambers reached by shafts as much as a hundred feet deep.

Our camp lay just east of one of these mastabas. As I walked around I found that our predecessors had camped to the southwest of a mastaba on the other side of the pyramid. That they had departed hastily was quite evident. I completed my tour and returned to our camp.

Dr. Peri was not in sight and the men were idling around. But though they had nothing to do, I thought the absence of merriment among them was strange. I called Ali, the tent boy and told him to prepare my shaving outfit. He too, though usually quite cheerful looked very sombre.

After finishing shaving, and when I had completed some notes, I lit a pipe and stood in the door of my tent. The sun was sinking low in the sky. As I looked across at the tombs I had an uneasy feeling, as if I were being watched by someone or something. None of the men were in sight and Dr. Peri was in his tent no doubt. I knocked out my pipe and walked over to his tent.

CHAPTER III

An Alarming Statement

GOING into his tent I found that he was out and as I stepped out, one of the Arabs passed by. I stopped him and asked him if he had seen the Doctor. The Doctor went to look over the tombs soon after I did the man said and had not returned yet. I wondered that I had not seen him and started back towards the tombs. I had gone half the distance around when I saw him, on the southwest side. He was on his knees with a large reading glass in his hands.

"Hello, Doc, studying geology?" He started and looked up but seeing me resumed his work.

"What's up," I resumed, "lose a valuable?"

"No,—I am becoming interested in biology."

"Oh."

He rose to his feet, pocketed his glass and mopped his brow. "Stewart," he said, "do you notice anything queer here?"

"Why, why no, not exactly."

"Well, I do."

"What?" I asked trying hard to appear calm.

"In the tent, I will tell," he said strangely.

As we walked back towards the camp my pulse-beat quickened with excitement. What! I thought, had the Doctor seen the mysterious light too? In silence we walked straight to Dr. Peri's tent. Inside, I sat down and began fanning myself, as Dr. Peri put away his glass. His movements struck me as peculiar, they seemed so deliberate. I watched him and finally he came over to me and sat down on a camp stool.

"Mr. Stewart, you have seen nothing peculiar, nothing?"

"Well yes I——, no now, I have not either, come to think."

"You are sure then?"

"Yes, quite sure."

"Ah, my friend, you are not what you would call observant."

"And why?"

"Were you ever in these desert before?"

"Yes."

"Ah, good, then I presume you are familiar with some of its conditions, yes?"

"Why yes, I know something about the desert."

"Marvelous, my friend, now we are getting some place. In the desert it is what you call peculiar. Different from the other places. For instance, there is much stillness."

"Doctor, I don't quite comprehend."

"I said, in a desert there is much stillness, but not all is stillness; even in the barren desert there is some action, animal action."

"Still Doctor I don't see."

"In all deserts there is some life, but here there is none."

"*Say that again!*" I rose to my feet excited.

He motioned me to my chair.

"Please, it is peculiar, here we find no life but ourselves. My friend, sometimes you have the thick skull. Listen, I will say so even you will comprehend. After I was here but a very short while I noticed a funny thing. A peculiar stillness, nothing is astir. I look further and lo and behold I find no animal life. It seems funny, so I investigate and find I am right. These place has no animal life excepting that of our expedition. Not even the insect."

"But what is the reason for this, do you fear something?"

"I did not say we should fear something, just want to call your attention to this peculiar phenomena."

"Doctor I think there is something sinister about this place," I confessed finally.

"Come now, come, we will have dinner and retire early."

Trouble Comes in a Strange Form

THAT night I tossed in my sleep uneasily. Strange and fantastic ideas entered my mind. Again I experienced that peculiar and unpleasant feeling that something watched me, watching and waiting. I awoke next morning with a troublesome headache. I felt "all in", and my brain seemed dull. I took some tablets and dressed. As I was straightening my cot Dr. Peri entered.

"Good morning, my friend, you look ill."

"*Bon jour* Doctor, I feel as bad as I look."

"*Beaux yeux, ar!* the ladies' man is lonely."

"Don't be absurd!"

"Oh well, pardon my jests. Come to my tent, I will give you the tonic."

"Devil take the tonic."

"*Bien.* Breakfast in one half hour, then you work."

I felt so badly I took hardly any food, and I did not feel very much like outlining and organizing our work. However, Dr. Peri and I went out and instructed the men as to the first steps to be taken. Then accompanied by two men we proceeded to the tombs. Dr. Peri had pretty well in mind the outline of our work for he thought he could find material at these tombs to back up some of his theories. He therefore intended working on every mastaba in the locality besides the pyramids.

We reached the mastaba on the northeast where Peri had decided we should start.

This one had not been touched by other archaeologists and looked a promising prospect. After two hours survey we found that it would take a few days to gain entrance.

Going back to the camp I suggested to Peri that we might work over the other mastabas. But he shook his head, deeming it wiser to stick to one at a time.

The next three days were spent in hard work under a blazing sun. We made good progress though, and by the end of the third day after commencing the work we had all the debris cleared away. During this time I saw or heard nothing unusual and my peculiar feeling left me. Moreover the men were now taking a heart in the work.

That night, however, the peace we were enjoying was rudely disturbed for at about ten o'clock one of the Arabs came running into my tent.

"Master!—the camels, someone is among them."

"Who?"

"I could not see well, but Ahmet he sees too." I picked up my "Savage" and ran out of the tent toward the camels. Some of the men followed me and I told one to get Dr. Peri. When I reached the camels I couldn't see anyone or anything in sight. One Arab carried a brand and I held it up, but it revealed nothing. The camels appeared to be very agitated however.

Dr. Peri came running up flushed with excitement.

"What—what ees happen?"

"Oh nothing, some cursed jackel or something has frightened the camels."

"Jackal, here? No, no my friend, no jackal."

"Oh well, whatever it was, it's gone. No use waiting here."

As we returned, Peri followed me to my tent. Inside he looked around as though he expected to see something. Then he came and stood before me.

"My friend you were right, these ees a sinister place. Last night I walk out of my tent toward tombs, all at once I see—"

"You saw a weird, phosphorescent like light?"

He appeared surprised. "How did you know?" he asked.

"I saw it myself on the eve of our arrival here, but I said nothing thinking you would ridicule me."

"My friend something very mysterious, devilish lies behind that light, its bearer disturbed our camels, not a jackal."

"My God, Peri, what is it! Who or what would be carrying a light among tombs and for what purpose."

"Ah my friend, as in everything else, there is much to be learned, but tomorrow we will look at other mastabas."

Again a night of fitful restlessness, of fantastic dreams and fantasies. The next morning I again had a bad headache and I realized if I kept

losing my sleep I would ruin my health. I dressed myself wearily and rubbing a hand across my face I felt a stubby growth of beard. For the past two or three days I had been too busy to shave and now I was too weary.

At breakfast I found that Dr. Peri had laid out the plans for the examination of the other tombs.

"We will examine each mastaba in its turn, maybe we find something, maybe we don't."

It was mid-afternoon when we came to the mastaba on the southeast. It was here that the last expedition had worked. In view of the fact that the other expedition had worked here so recently, I was surprised to find so much debris around. We searched about for an hour but saw nothing unusual except that it did not look as though an expedition had been working there recently. I remarked about this to Peri who also thought it odd.

When we finally came back to camp it was growing dusk. I was fatigued and wanted rest. I ate a little dinner and went to my tent. While putting by some of my tools that I had been using, I noticed that my dynamo flashlight was missing. Then I remembered; it had been in my kit and not needing it, I had laid it aside and forgotten it.

I did not wish to leave it there all night, and being exceedingly tired, I sent one of the Arabs after giving him a small flashlight to see by.

It was about eight o'clock when I sent him off and when nine o'clock came and the man had not returned, I became uneasy. I paced back and forth becoming very agitated. Finally I rushed out of my tent and seizing an Arab by the neck I asked if Ahmet was around, for it was he whom I had sent. The Arab appeared bewildered and said he was not.

I rushed into Dr. Peri's tent.

"My God, doctor, a terrible thing must have happened. I sent Ahmet for my light an hour and a half ago, and he is not back."

"My good friend don't be so excited, he probably could not find it queekly, so. However we will look and see."

As we passed out of the tent I noticed Peri carried a pistol. We called three men and with lanterns proceeded to the southwest of the pyramid.

A cold fear gripped me as we approached that corner. Again I experienced that feeling of being watched by unseen eyes. The men were plainly uneasy, casting glances off into the darkness. I gripped Peri's arm as we came up to the point where I left my light.

The reflected rays of the moon showed the place in eerie weirdness. I looked and saw my flash lying just where I had left it. Nothing else was in sight. The living, breathing man whom I had sent for my light had absolutely disappeared, leaving not a trace. I felt sick; this terrible thing was too much.

CHAPTER IV.

Mutiny

AS we returned to camp each one busy with his own thoughts, that feeling of being watched grew in me; I felt as if we were all doomed. When we reached camp the men who had remained behind gathered excitedly around their fellows. Paying no attention to them but walked off with Dr. Peri.

But I knew that trouble was brewing, though I said not a word to Dr. Peri. As I turned to my tent he grasped my arm, "Listen my boy," he said eagerly, "tomorrow we go back and we will try to discover mysterious things, yes?"

"All right, old man, as you say," I replied dejectedly. I knew Dr. Peri was trying to keep my spirits up, though as alarmed as I. In my tent, I sat on my cot and started to ponder on the Arab's mysterious disappearance.

But the more I thought about it, the more impossible it seemed. "Where could he have gone? what could have hap——Ah." I jumped and slapped my hands together. I had it now, the answer to several things seemed to come at once.

"The southwest corner, that's the damned place," I exclaimed aloud.

"Now it all comes to my mind. From that direction came the light; our camels are closer to it than any other part of our camp; there the fated expedition worked; and there is where Ahmet disappeared beyond a doubt."

I felt like rushing immediately to Dr. Peri and telling him what I thought, but decided to wait till morning. So with a feeling akin to triumph I prepared for bed. I felt sure that on the morrow I would find the key to these mysterious doings. But I could not dispel the feeling of being watched, however, and it made me uncomfortable.

I awoke next morning quite refreshed and in good spirits. I arose, dressed, washed and shaved and was leisurely putting by my shaving outfit when Ali, the tent boy, burst in.

"Master! oh master, come quick, the camels are dead, all dead and Asad who watched."

I dropped my kit on the floor. I was stung beyond belief but I acted quickly. Wheeling I seized the frightened lad.

"What talk is this?" I asked him sternly.

"The camels master—"

"Are all dead eh, well by God I'll find out what this game's all about today or die. Does Dr. Peri know yet?"

"Yes master, he is coming to your tent." At that moment Dr. Peri burst in.

"*Mon Dieu*, have you heard? All our fine camels and faithful Asad?"

"Yes, have you seen them?"

"No, but let's go quickly."

With Peri tagging after me I ran all the way to where the camels were. There strewn before me were our animals and a little way off, Asad, As Dr. Peri came up, he looked sorrowful, but said nothing. I was quivering with rage and despair.

"Who, what did this thing and for what purpose?"

"I know not," he mumbled. "Come though and let's look over the handiwork." We walked over to Asad. He lay face down in the sand, his legs stretched out, one arm doubled under his body and the other stretched out at right angles to it. Around him in the sand were no signs of struggle.

We turned him over. On his face was no mutilation but an expression that will haunt me to my dying day. It was terrible, I hope never to see the like of it again. It was contorted, contorted with fear. The mouth gaped open, the lips drawn over the teeth. The nostrils were widened, and the eyes, my God, those eyes, how they stared in unspeakable horror. We examined him thoroughly and no mark of violence or poisoning did we find. He had died of terror.

The camels we found to be poisoned. On the hind quarter of one I found a small wound. Examining the rest, I found similar punctures at the same place. A hypodermic needle, I announced.

Peri nodded but believed that it must have been a very thick needle. I turned to look at the bodies again and then turned to the men.

"Bear Asad back to my tent and bury these camels."

The men did not move but stood and looked at me.

"Did you hear me? Obey." A tall Arab stepped out and in even tones said, "No more will we obey you, infidel, no more."

He turned and addressed the others.

"Too long have we listened to unbelieving dogs. Long since should we have gone back. Two are now taken for disobedience, wilt thou wait longer?"

A murmur ran through the men. The Egyptians were not sons of Allah but they feared the vengeance of the dead kings whom they still revered and they joined the Arabs against us.

Mutiny was breaking out at last. Dr. Peri immediately became flustered and started stammering to the men. I told him to be still and stepped out a pace. I began in tones as even as those of the Arab.

"No doubt you fully remember my warning to deserters; it still is a warning for deserters. In no way are we to blame for these happenings; we shall punish the offenders as we find them. You men, however, remain till we dismiss you. Furthermore, any participating in further mutinous outbursts will be turned over to the authorities on our return, with no further pay."

The spokesman became furious.

"Christian swine, you will never return."

He and two others stepped quickly towards us, knives drawn. They meant business. I stepped back very quickly.

Crack—crack—my automatic spoke twice and the leader lay in the sand, two bullets through him.

The other two stopped and stood as statues. Dr. Peri was swept off his feet by the turn of events. I told him to stay by me and keep his mouth shut. The men drew off in a group talking excitedly. Covering them with the gun I walked over to them.

"Any one else wish to leave camp?"

I received no answer.

"Very well, every one wishes to stay, good. Now! You have your orders! Obey them."

I sent Dr. Peri and Ali back to camp and then stood over the men, till they picked up the two bodies and bore them back to camp. I then personally supervised the burying of the camels. When back in camp I told the men to go about their respective duties till further notice. I then went to Dr. Peri's tent.

When I entered the poor fellow nearly fell down. His work had been comparatively quiet that in all his life he never came across trouble such as this.

"Forced to kill our own men," he moaned, "*Mon Dieu*, what is next."

"Quiet yourself, Doctor. It is not our fault. I tried to avoid it but it was either them or ourselves."

"I know, but this is too terrible, the authorities, what will we say, what can we do?"

"Everything in its time, Doctor. But now we will get at the bottom of this thing."

"We can't now, we will have to go back, besides we are short-handed."

"No by God! We will see this thing through even if we two only remain. Further, we will start things popping right off. Number one, bury the men, and then start at the bottom of this thing. Besides," I added, "I don't want wind of this spread all around."

"As you say my friend, I depend all on your advice."

Trapped!

THAT afternoon saw the burial of the two Arabs. With that completed I busied myself with preparations for our investigation of the southwest mastaba. When Ali told me to watch the men and not to trust them, I took this for good advice.

The next morn, the dawn of a day I shall never forget, we started work on the mastaba. The fiery orb of the sun promised to be merciless and not a wisp of wind blew in the desert. I worked the men unceasingly, Ali and I laboring like slaves.

It seemed that, except for the work which we had done ourselves, the mastaba had not been touched for hundreds of years. We labored and sweated and performed engineering feats. With Ali carrying supplies, six men and ourselves doing the work I think we set a record for accomplishment. Although the mastaba was on the ground, gaining entrance was not easy for part of the outside had given way and the entrance was completely covered. I knew then that the other expedition had not gained entrance to the mastaba.

When four o'clock came we finally entered the mastaba. Going from bright sunlight into pitch darkness we could not see well even with our lamps. First I stumbled and hurt my knees. Then we realized a peculiar fact, though we were away from the fresh air we encountered no foul air here! The mastaba contained fresh air! This astounding fact seemed to confirm me in my strange doubts about the place.

Then as we looked around we found ourselves in a vestibule. Ahead was the entrance to another chamber into which we passed and found ourselves in a long narrow room. At the center of this opened another entrance. These rooms were entirely bare, even to decorations. As we

passed into the third chamber, Dr. Peri suddenly sprawled full length. Turning my lamp on him I found he had tripped on a small statuette. I passed my light around the room and found we were in the tomb chapel, a room about twelve feet long and nine wide. Here the walls were decorated. Set near the corners were the figures, one of which Dr. Peri had tripped over. In the center were ancient food offerings. An exit was at the end and this passed into a chamber containing religious objects used by the priests.

Coming back into the tomb chapel I spoke to Dr. Peri, "Nothing seems to be unusual here."

"No, my friend, nothing as yet."

"Oh well," I said, "let things come as they may, I say, though, wonder where the shaft to the burial chamber is. The door, I suppose, is merged in with the wall."

"I think we had better let that go until tomorrow. What time is it?"

"Only four thirty. I'm going to have a look for that door," I said adventurously. "Where do you suppose it is likely to be?"

"Right here in the chapel itself."

Taking up a hand pick and using the handle I started to test the wall. Suddenly I stopped.

"Doc! Come here, I've found it."

"Seems to be, may be false."

"By George I'm going to take it down today."

"Better wait, it's getting late."

"Oh no, call in the men."

The six came into the tomb chapel.

"Where's Ali?"

"To camp for water."

"Well now," I said, "I want you to chisel around here where I mark."

They began and with myself doing the delicate work we soon were deep into the red sandstone. Dr. Peri was nervous but he finally joined us.

"Be careful, Stewart, don't spoil that work."

Suddenly I decided to quit work for the day, and told the men they might stop. We were all still standing in the chapel when, as I was stooping to pick up my helmet, I swung the head of the pick against the wall.

"Careful, Stewart, you'll - - - -"

The words were cut short in his mouth and we started back. There before our amazed eyes a part of the wall, as if it were a door, revealing intense darkness.

"A secret door," I gasped; "I must have struck some secret panel in the wall with the pick."

We turned the rays of our lights into the opening, but they revealed nothing.

"I'm going in," I announced determinedly.

"Careful, boy, careful."

I passed in, Dr. Peri following me. Once inside we were better able to see. The room seemed about the size of the tomb chapel.

Suddenly Peri shouted.

"Here, here is the shaft!"

I was at one end of the room and as I turned I sprawled again. My light flew from my grasp but I regained it and turned the rays on what I had fallen over.

"Why, here's the shaft," I said.

"What did you say?" said Peri coming over.

"Here's the shaft."

"No, it's over there."

I stood up and looked at Peri and then we looked at the floor and cried in amazement. There were *two* shafts!

We examined them and found one in much better condition than the other.

"Damned strange, I wonder - - - -

Click!

We turned and to our horror *found the entrance was closed!*

CHAPTER V

The Mystery Reveals Itself in Part

"WHAT devil's game is this?"

Dr. Peri walked over to the door. Suddenly he exclaimed, "*Mon Dieu!* Come here, listen."

I moved closer and then stood aghast.

From the tomb chapel came curses and cries of terror from the men. Finally there was coughing and then silence. Not another sound came from the tomb chapel.

I stood trembling from head to foot, horror stricken.

"Lord, Peri, what's happened in there?"

Peri stood still and silent gazing at the place we had come in by.

"My son," he said slowly, "I deeply regret having brought you into this terrible thing. I don't think we shall ever see daylight alive."

"Doctor, do you think some outlaw gang has taken possession of these tombs?"

"I fear something worse."

"Worse?"

"Come, my son, let's examine this chamber. I fear our men have gone as the rest."

As we started to examine the chamber I felt more strongly than ever the feeling of being watched. The chamber revealed nothing and we finally drew towards the two shafts.

"These shafts, why two?" I said, "and why is it that one appears much less dilapidated?"

"I know not."

"I wonder if we can get the cover off these shafts?"

"I think," said Dr. Peri, "if that's what you want, we could divert our attention to this apparently neglected one."

I went down on my hands and knees.

"I wonder if there is another button around here."

"No, but here is a ring."

"Hmm, doesn't seem attached to anything on the cover. Shall we pull on it?"

"And why not?"

We grasped it and gave it a good jerk and simultaneously up flew the cover.

I was surprised at the ease with which it came up for it was a massive thing. We still had our revolvers and we instinctively clutched them. Then we trained our lights down the opening.

Down before us stretched a flight of steps that lost themselves in the darkness.

"Doctor Peri. Should we venture down?"

"And why not?"

"All right, I'm ready."

When we started down I took out my pistol. The stairs seemed without end. Down, down, down we went. The blackness surrounding us was complete. In the deathly silence our footsteps echoed hollowly around us.

"I say, the air is quite fresh. This is very peculiar. Fresh air in a place like this."

Finally we reached the bottom. The stairs seemed to end in a small room, and looking around I saw an entrance or exit at one end. I moved toward it, Dr. Peri following right behind me. The opening was quite wide. I turned to Peri and was about to speak when we heard a distant click.

"The cover!" I cried, springing towards the stairs.

Peri, however, held me back.

"Its no use, Stewart."

"Oh, the fools we are, to be trapped twice."

"What difference does it make?" Peri said. "We were surely trapped above by the first one."

"But," I protested, "above we knew where we were, and Ali might have helped us."

"Ha, do you think any one could come near this place and live if they were wanted dead?"

"What do you mean?"

"When I said you had a thick skull I was right. Do you think all these happenings are coincidences? No, some superior intelligence is at work, it can see everything."

"But why is a harmless expedition attacked so?"

"Who knows? Let's go into this chamber."

We cautiously went in and found ourselves in a room apparently larger than in which we had yet been. Suddenly - - - Click.

"Again," I moaned in despair.

"Evidently we are not intended to escape," said Peri, turning to the last closed entrance.

This time we were not left long to speculate. Around us burst a phosphorescent glow. We stood in a circle about ten feet in diameter, entirely lighted by the eerie luminescence. We were perfectly illuminated but we could not see beyond the glow. I clutched Peri's arm and stood staring into the darkness.

We heard something move in the darkness and through the circle of light burst a figure, a figure that struck us dumb with amazement.

The figure, we beheld, was familiar to us in a certain sense of the word, familiar because of our study of Egyptology. It was tall, the body being very erect. The hips were quite narrow, the angular shoulders, the broad forehead and statue-like features would have marked him for an Egyptian anywhere. His dark brown, handsome face was surmounted by a miter. The rest of his garments were those of an ancient Egyptian priest.

I was thunderstruck as I looked at him. He stood five paces from us and with folded arms, eyes glowing like a cat, surveyed us.

Then we were startled even further, for he began to speak, *in English*. All details of his speech did not reach us then, for we were too thunderstruck.

"Welcome, welcome to the tombs, abode, and laboratories of Sais-Amen-Tanis... If you have been caused inconvenience, pardon, we beg your pardon."

Saying this he ceased speaking and looked intently at us. Then he raised his hands, which I noted were long and slender and heavily decorated with signet and scarab rings, and clapped once. The sound echoed and reechoed. He then spoke out in a language which neither Dr. Peri or I understood. Immediately there appeared a gigantic black man, with his head shaved, clad in a lion skin. He was apparently an Ethiopian.

The Egyptian spoke to him and then turned to us.

"This is Athribis, you will accompany him."

The black man turned and we followed in a daze. As we passed out of the chamber into a sort of corridor the phosphorous light in the chamber went out and the corridor was lit in its stead. We followed our silent, stone-like, guide. Just as we reached the end, a panel swung open and was passed on through.

Although we had been subjected to startling experiences ever since our arrival, the sight that met our eyes superseded all the rest. As we left the corridor we passed into a terrace, a wide, marble, terrace. It stretched off to our right and left for considerable distances where it was joined by two others at right angles. It went somewhat further to the left before it turned. All around as far as I could see were beautiful columns bordering the inner side. Every few yards a fountain played and from between the columns the peculiar light issued.

But this was only a small part of what we saw.

Beyond the terrace and bordering it as far as we could see was a channel or moat of water. On the side of the terrace we were on, a short flight of broad steps led down to it, and moored to the last step was a boat, an Egyptian mortuary boat.

Across this moat and hemmed in by it was a great and very beautiful building. If the water extended all the way around, and I felt sure it did, the building was on an island. On the side facing us, the lower part rose straight up from the water and offered no admittance from a boat.

"My God!" I exclaimed to Peri, "I am dreaming, this can't be."

He put his hand on my shoulder and said, "No, my boy, you are not dreaming, we have chanced on a stupendous discovery. We see things no man would believe. That person who spoke to us was an Egyptian, not one of these modern so-called Egyptians but one of that ancient and noble race."

Our guide motioned us to follow him and we went down the steps to the boat and got in. The craft was a typical mortuary boat on the outside but altered somewhat inside. Our guide and guard stood in the rear and grasped a huge steering rudder. At the front was a small raised deck and we sat midships on a luxurious divan.

Suddenly without warning we were in motion.

"What's furnishing the power, Doc?" I inquired.

"I can't tell," and then he looked down at the water and caught my arm, "Look, see, the water's in motion.

I looked and sure enough the boat was being carried along by the water.

We were going down to the left and when we came to the turn, the man with a dexterous movement turned the boat sharply. I glanced at the great structure and saw that there, too, the lower part offered no mooring to the boat. I then turned my attention to the terrace to our left.

As I looked, I saw something that made me jump.

"Look, Peri," I cried, pointing. Peri looked and turned pale.

Our Enemy Turns Host

THERE on a chain that gave him access back and forth across the terrace was a huge gorilla. The beast was much larger than any I had seen in life or in pictures. It was a terrifying monster, and its ferocity seemed proportionate to its size. It paid no attention to the boat.

"Evidently," I remarked, "one must not walk on the terrace."

As we passed along the water I had a feeling of being removed as far away from the outside world as one who travels to Mars. The more I looked at it, the more the building seemed a mighty fortress. It seemed so large and strong as to appear invincible, but, nevertheless, it was very beautiful. As we neared the second turn I glanced up. This whole subterranean wonder was covered by a white ceiling, made apparently of marble. I judged the distance from terrace to the roof to be about sixty feet.

As we turned, my attention was claimed by more astonishing sights. Here the terrace and moat were more highly illuminated. The building on this side was provided with the boat landing where steps came down to the water in a semi-circle. At either end of the semi-circle was another flight of stairs leading to a second floor. Along the front of the building stretched a marble veranda and leading up from the building's veranda to the top were great columns. At the top of the stairs were two great entrances.

As the boat slid in next to the steps I looked across at the terrace. There I saw a beautiful pure-white structure, which covered the width of the terrace and extended along it for about fifty feet. From its front, steps led down to the moat.

Our guide motioned us out of the boat. The water had ceased its motion and I wondered who controlled it, for evidently it was not our guide. We went up one of the flights of stairs and as we reached the head, the door swung open. Passing into a long curved corridor behind our noiseless guide, we emerged into a gorgeously resplendent room.

By signs our guide made it clear to us that we were to stay there. The chamber was circular, except at the end, at which we stood, and about forty-five feet in diameter.

As our guide proceeded toward the other side, Peri and I watched him with deep interest. At the other side of the room was what appeared to be a great, black, slab of stone, upon which rested a glass-topped sarcophagus.

Our guide approached it very reverently and upon reaching it he dropped to his knees, and with out-stretched hands, bowed his head to the floor. He started praying in a strange tongue, raising his voice now and then. He then arose and backed away.

Finally he turned to us and motioned us to follow him. We passed down the side of the chamber and into another room, heavily scented with incense. The walls were hung with tapestries and the furnishings were those of the most luxurious ancient Egyptian. From this we proceeded to yet another chamber. Here our guide quickly left us and a panel slid shut behind him.

The chamber we were in was evidently designed for sleeping. It too, was very luxuriously furnished and hung with tapestries. A pleasing odor filled the room.

"Well, Peri, here we are, still alive."

"Our position is not a light-hearted week-end trip, my friend."

"Ah, Peri, you're right but we have enough to think about without worrying."

"Have you formed any ideas about this place?"

"Well," I said, "our host or hosts have a sense of beauty, and as engineers, well, they rank with the best of today. Houdini, or any one else, couldn't escape from here. By Jove, if we came through one, we came through a dozen of those doors that open before and close after you.

"Bah, Your ideas. Listen, my poor weak-minded friend. We are in the hands of people of super-human intelligence. Who in the wide world would have conceived such a place? It's a fantastic as the Martian stories. But do you realize the full import of this thing? They, whose hands we are in, or some of them at least, are people of Ancient Egypt!"

"Probably descended directly," I said casually, "for you surely don't think they were actually members of those races of Old Egypt, do you?"

"Must a building fall on you Anglo-Saxons to make you see things? What I've experienced already would take all scepticism out of me. Besides in my scientific papers I always claimed that the Egyptians had a great biological knowledge."

I was just about to answer him when a voice spoke out.

"Pardon me, gentlemen. Do you find everything comfortable?"

We swung around searching for the voice.

"Do not trouble yourselves as to the origin of the sound. No doubt you are tired and dusty. In that room to your left you will find a bath. Athribis will see to your immediate needs."

"Well," I said, "we're evidently watched. Permit me to bathe."

We went into the room.

"I say," I exclaimed, "when I said these chaps knew luxury and beauty I meant it. Look at that pool."

But Peri was examining the pool. It was situated in the center of the room. From nooks in the wall issued a peculiar light. Great divans and dressing tables bordered the sides of the pool. Dr. Peri stood still and scratched his head.

"Built throughout of serpentine marble."

"Rather tip-top, what?"

As we climbed up the steps from the bath, the

voice said, "In your chamber you will find garments, put them on and wait."

Coming out we found our clothes had disappeared and so had our revolvers. In place of the clothes we found some Egyptian apparel. As we were dressing I noticed on a small table, a colored glass bottle and two glasses.

"I'll sample this."

It proved to contain delicious wine.

Dr. Peri was far more interested in the container than its contents.

"Stewart, look at this. A master-piece in iridescent glass-making. These glasses too, this collection is better than any now known. We will probably learn of the lost art here."

"By jove, Doc, you're right. We'll probably see the solution to many puzzling things cleared up, but we will never tell the world about them."

I then started to make a detailed inspection of the room. One part of it was circularly indented. This indentation also formed the end of the bath. The rest was fairly square in shape; the only openings being the one by which we had entered and the one that led to the bath. The bath was in reality a walled-off end of the room.

The sleeping couches were gold, chairs and chests were gold plated. The floor, instead of being bare, was covered by a heavy rug. A faint blueish light was diffused over everything.

As I turned to speak to Peri the panel slid open and the magnificent form of Sais-Amen-Tanis entered, after whom the panel slid shut. He walked over to us and with folded arms surveyed us.

I noticed that he carried a large flamboyant dagger attached to a girdle.

"Ah, Mr. Stewart, and Dr. Peri, did you find things as you desired?"

"In this building, yes, otherwise, no. What do you want with us?"

"That, my friend, I cannot tell you now. Still, it is with a purpose of telling you something that I have come here. Sit down and listen."

We complied and the Egyptian sat down also. Then seated in this strange room with us as his guests or prisoners, he unfolded a story such as mortal man has never before heard.

CHAPTER VI.

The Egyptian's Story

AS you sit before me (he began) a hundred questions, doubts, and fantasies chase through your brains. "Who am I? What is this place? What is the purpose of it?" These and other questions you ask yourselves. Your curiosity shall be satisfied. Incidentally you will gain more knowledge of Egypt from what I tell you than you would ever receive from the desecration of our dead.

It is because you disturbed our tombs and our work that you are here. I was driven to drastic methods. Before your arrival another group was here, but they too, were taken care of. One of your party has preceded you. He, however, came in rather handy. I found use for a certain part of his brain, and his spinal marrow. But do not become alarmed, no such fate awaits you.

I have a place for you in my plans, so fear not bodily injury. You will be well treated and gradually introduced to various objects and plans. Escape is impossible, as is rescue from the outside. I shall now endeavor to tell you who I am and give you some of my history.

I have said my name was Sais-Amen-Tanis. That is not my real name but it has served for twenty-three hundred years and it need only serve a little longer. Before that I had other names, but soon, soon after these centuries of waiting I'll resume my own.

You men, from your studies, know something of my country's history. You will then be better able to understand what I am about to tell you.

In the year 2856 before your Christ was born, I first saw the light of day. My father was a high-priest of Osiris. Our mighty Pharaoh Khafra ruled Egypt. Memphis, the capital, had no rivals. Khafra ruled during the great fourth dynasty, the greatest period of the Old Kingdom. As a boy I watched the construction of Khafra's great pyramid, watched it grow up out of the desert beside the mighty pyramid of Khufu. I have seen the Sphinx and those great structures in their glory, surrounded by luxurious gardens and marble tombs. Nearly five thousand years have passed, but soon I shall see them again as they were!

I was taken into the temples at Memphis and there given the best possible training. I was taught the ways of the temple, taught the mystic rites. I was schooled in the sciences and in many things of which you are ignorant. I soon learned all that the priests and scribes could teach me. I then started to probe into the secrets of nature, farther than any man had ever gone.

There were certain things the priests knew but didn't understand. Those things still escape your modern scientists. I probed into the very bowels of these things and after much research, conquered them. I had all the temple equipment. I put some of my discoveries to use and produced a fluid that accounts for my being here. You know what metabolism is. After a certain length of time the process of changing dead organic matter into live cells and the continuous changing of the live cells and tissue begins to run down. I discovered the secret of the duct glands. I produced cats as large as calves and calves as small as cats. I wrested the secrets of protoplasm from defiant nature.

I finally produced a fluid that, if injected into the blood stream, would keep the body unaltered for thousands of years. It was to be injected at the prime of life and the only part of the body to change would be the brain. This elixir keeps the endocrine glands functioning exactly as they were in the prime of life, and when mixed with two others can even change an animal's appearance. These things are some of the most important discoveries I made in those far off days.

I made several lesser discoveries but the secret of the elixir I shared with none. I saw the wonderful possibilities of the life prolonging fluid and I inoculated myself. I had two intelligent and faithful slaves and I inoculated them also. Athribis is one of them.

A wife of Khafra fell ill and was dying. I cured her. I immediately gained great favor with Khafra, a favor that I gradually increased. I did not accept the high positions offered me, for I desired all my time for experimenting.

However, things began to change. My father whom I had not as yet inoculated was killed one day as he stood near Khafra's great pyramid. He had gone with other priests and nobles to watch the completion of the top. A block weighing several tons became loosened near the top and came tumbling down. As it struck near the bottom, it hurtled out, striking my father and killing him instantly.

My loss was not all I had to bear. The succeeding High Priest of Osiris was a young man who had studied in the temple with me. He hated me because of my success. He dared not, however, express his dislike openly because of my favor with Khafra.

In 2811 B. C. as you would say, Khafra passed on to be judged by Osiris and begin his three thousand year wait in his pyramid. The passing of Khafra marked the beginning of the end for the great fourth dynasty and for the Old Kingdom.

Succeeding Khafra came Shepseskaf, who was a fair ruler but a weak one. His power waned more and more and certain nobles and High Priests aimed to get control. High officers of the army plotted to overthrow him. Meanwhile Shepseskaf had a young nephew for whom I had a great love because of his intelligence.

Five years after the death of Khafra, Shepseskaf was overthrown. The man who gained control was a friend of the High Priest of Amon and together they plotted to slay me, not forgetting Shepseskaf's nephew. I took the boy and fled from Memphis to Abydos.

I taught the boy everything I knew, including the secrets of the elixirs. I inoculated him. Ten years later we came back to Memphis and overthrew the usurper. I myself reigned as pharaoh until 2755 B. C. I then put the boy on the throne as Thamphthis I and he reigned as supreme over all for five years.

Now the Northern Kings were becoming powerful. Thamphthis could have held out much longer but I was beginning to work out a gigantic plan. Accordingly we spread the news around that Thamphthis had died. All preparations for burial were carried out and the empty mummy-case of Thamphthis was taken to the Pyramid of Khafra.

The fifth dynasty started under the Northern Kings. Several changes were made, some of a religious order. The worship of Ré began. The fifth dynasty of the Delta Kings never equaled that of the fourth dynasty. At the end of the fifth dynasty the nobles and the priests were almost as powerful as the Pharaoh.

The sixth dynasty was still of the Delta Kings. The last pharaoh had no power and anarchy set in. This great chaotic period lasted through the seventh and until the end of the tenth dynasty.

Down the Centuries

DURING this time I played no active part in the life of my people. Being the son of a High Priest I had a mastaba near the pyramid of Khafra. My elixir, however, gave me no use for it. But Thamphthis and I wanted a place where we could work and carry out our great plan. We had a number of faithful associates, loyal subjects of Thamphthis, and these I inoculated. We had, as I said before, also several faithful and inoculated slaves.

While Egypt was in turmoil, we built this place. We selected this site because it was as lonely then as it is now. Near the end of the tenth dynasty we completed it. These "step-pyramids" were old when I was born.

Then came the eleventh dynasty, the Middle Kingdom and order. The capital was now at Thebes. Memphis had lost its glory. But this period did not last long. In the thirteenth dynasty, wild tribesmen, the Hyksos, over-ran Egypt. Order was not restored until the beginning of the eighteenth dynasty. In 1580 B. C. the Hyksos were overthrown. Aahmes became Pharaoh at Thebes. During this time Thamphthis and I made more and more wonderful discoveries. Many of these you will see in our laboratories.

In the eighteenth dynasty I went out into the world again. I held various offices under different Pharaohs. When that meddling woman, Queen Hatshepsut, dispossesed Thothmes III, I lost much of my former power. Her ablest backer, Senmut, hated me. I retaliated by having him lose the Queen's favor. To keep the truth from being known I had him slain. Senmut was a man of keen intellect, so keen that it brushed the edges of my plans. I was forced to dispose of him, but --- I still have the real Senmut in this place, his body lies in the lower vaults, dead but yet alive. I have further use for him.

I gained favor and glory under Thothmes IV, and under Amenhotep III. Of course, I changed my name and appearance so as to escape the attraction I would otherwise gain by my longevity.

Then came that low desert-wolf, would-be destroyer of our gods, Amenhotep IV. He insulted the great Amon, even changing his own name to Akhenaton. Guided by his wily mother he built his new city. In his sixth year as Pharaoh none dared worship any God but Aten. I remember well when he drove out from the electrum to proclaim Aten. The blind fools of the Heliopolitans saw their mistake too late.

However, Akhenaton's death marked the end of his heresies. Confusion reigned. During Akhenaton's reign, the armies were used to uphold Aten. We were being stripped of our colonies.

Weak Smenkhara was on the throne nine months. Then fourteen-year old Tutankhamen came on the throne. Five years later I saw the final rites of his mummy across the Nile. Thirty-three centuries later, as a workman under Carter I saw it brought to light!

At this time one of the important chapters of my long life was written. I had become a general under Tutankhamen. I still held my position

under Ai. Our country was in a rapid decline and it seemed as though the eighteenth dynasty marked the end of the Empire.

To me this did not mean so much. When my plan was complete Egypt would be everlasting. There was another young and brilliant general who acted to avert the calamity. His name was Hor-em-heb. He became Pharaoh and saved Egypt. This made him divert his attention from something he nearly won from me. I then had no rivals to compete with for the hand of the beautiful Nefti, niece of the beautiful Nefertiti.

I won her, made her my wife and told her all my secrets. As my plan was constantly being delayed, I put her into a sleep where she lay as in death, yet retaining all her youth and beauty. She sleeps in the tomb across the moat, awaiting my call.

Under Rameses, the third, I met a studious young priest. He impressed me and I took him into my confidence. At Luxor he had built another such place as this. He is there now in charge, waiting for the word.

I will talk no more of history, of the following periods, of how at the end of the Empire Period, Egypt's beacons grew fainter and finally died out. Suffice it to say that in the Roman Period I took the name Sais-Amen-Tanis which still serves me I will have food sent in and later show you around. Good day."

After Sais-Amen-Tanis left our apartment I sank back in my chair. "By Jove, talk about your Arabian Nights, my head's in a whirl. Did you hear the same things I did?"

"Yes, and all was spoken in truth."

"What a story. Think of the knowledge he possesses. He speaks perfect English."

"No doubt he speaks many other languages. He has had centuries to learn them."

"I say! I wonder what his great plan is?"

"I have no idea."

At this time our food was brought in by a female slave.

"Hm," said Peri, "evidently other women are here besides Nefti. This place is like an underground city."

The meal was sumptuous. Duck, breast of goose, cutlets of beef, cakes, salads, and honey and fruit. The girl brought wine and lit some incense tapers. Just as we were finishing our meal, Sais appeared behind us without warning. Peri and I jumped in our surprise.

"Wh—Where did you come from?"

"Oh, my little joke, I came in with the girl.

"But we didn't see you."

"I would have been surprised if you had. Human eyes ordinarily do not see electrons and protons."

"Electrons! Protons!"

"Yes, I or rather the electrons and the protons that compose my body were sent in here on an invisible ray over the slave's head. Behind you in that cabinet that opened while your back was turned is where I was assembled."

"That is impossible. It would be absolutely contrary to Bohr's theory."

"Bohr's concept of the atom is wrong. I see that you do not keep in touch with the latest developments in physics in your world. Your scientists have displaced the Bohr theory with that of Schrödinger. However, Schrödinger too is wrong. The wave atom is quite wrong. Now if one had the key to the ether do you not think that he could take down a structure of matter and build it up again? Matter is energy, all is energy."

"Did the early Egyptians know the atom?" I asked.

"No, that is one of my latest discoveries. I started on it in 1810 A.D.

"That is a mighty key you hold," said Peri.

"Yes, so mighty that you can not grasp it. However, I came to show you around, come."

A Scene of Horror

WE passed out of our chamber into the one we had come in by and then into the room where the great sarcophagus lay. Sais walked over to it and bowing low, muttered some strange words. Coming back to us he indicated the sarcophagus and said, "There is Thamphthis I, greatest of the great. Being wearied of the long years he sleeps as Nefti and Senmut. Soon all will arise."

Then as we turned and passed through some tapestries we saw an amazing scene.

"The Temple," said Sais.

We were in a great semi-circular room. The air was heavy with incense and oriental perfume. At the front of the room stood a tremendous golden figure. Other figures ranged around the walls. Moving among the figures like wisps of smoke were priestesses. Out of somewhere came low, weird, enchanting music.

Sais stepped over to the great figure. He made humble obeisance to it. The priestesses had ceased moving, the music continued, the temple lights dimmed.

"Amon, Amon, oh great one, look down on us, who are of thee. Soon your desecrated temples will be rebuilt, oh mighty Amon. Even now come defilers of your resting place."

I remarked to Peri that it was strange that he spoke in English.

Sais rose and backed away. The music rose and I noticed others filling the temple. Sais beckoned us to follow. As we passed a statue of Anubis he stopped and spoke in his own tongue. I caught the words Anpu, and Amenti.

Then he proceeded to a great chair and we also were given chairs. All the time the music was rising and a chant was being given by the priestesses. I watched in fascination. Six priests entered bearing offerings for Amon.

Suddenly before our startled eyes a section of the floor before the statue of Amon rose up. Up, up it came. Then it stopped and we saw attached below a great cage. In the cage were two huge gorillas. The cage was swung off on a platform and the floor sank back.

The two great beasts tore at the bars of their cages and the people all around them fell back. Then Sais arose, stepped down, and walked over to them. As if by magic the beasts drew to the center of their cage. Then suddenly they stood upright and stiff.

With horrified eyes we saw Sais step into the cage. The animals did not move. Then he spoke and they nodded their heads, he spoke again and they raised their arms and dropped them. Sais then stepped out of the cage and came back to his seat.

He addressed Dr. Peri.

"Well, Doctor, do you find mesmerism useful? In a few minutes you will see some real tests in electro-biology."

As he finished speaking a second cage came in. A shout arose. A light flashed on it, and within we saw our six men!

The chanting ceased and a high priest rose and spoke. He frequently indicated the two cages. Then he turned to Amon, and Sais and everybody in the temple arose and faced the great figure. Sais gave orders and a kit was thrust into the gorillas' cage. The two cages were bound together and then all drew away from the cages. All the lights were turned out except the ones on the cage and the great figure of Amon. I looked at this weird scene feeling as though I was in the midst of a terrible dream. Then the voice of Sais broke the silence. He spoke, it seemed for hours. Finally he started to speak in English to us.

"Before you are six of your men. Arabs, and Egyptian Copts, present natives of Egypt, who for money are ready to destroy Old Egypt's glory. They desecrate Egypt's Gods, they care nothing for Egypt. The Egyptian Copts are in a way our descendants, and for their crime they will be killed quickly. For the Arabs, kin to the hated Hyksos of old, for you, oh sons of Allah, is reserved a wonderful death."

Turning to us he continued.

"View the fate of your men. The way they shall die is not Egyptian but an invention of my own. It has never been used before but it is perfectly justifiable. It is rather unique for it employs the science of the mind." He turned to the great statue and cried: "Oh, Amon, to you the sacrifice."

At his words the music started in a low, purely oriental tone. A tenseness was in the air. Then suddenly the gorillas started to move. I watched the terror-stricken men, feeling sick at heart. I could distinguish them clearly. I heard a voice beside me. It was Sais.

"I am having the Egyptian Copts killed quickly."

The Egyptians in the cage moved up to the side of the cage next to the gorillas. I saw the gorillas mechanically reach through the bars and strangle them one by one. The Arabs were standing like blocks of stone.

In a daze I watched the two apes take tools from the kits and cut through the bars, going through movements exactly like men. I saw the two beasts enter the Arabs' cage, saw them take the men one at a time back to their own cage. I saw that the men came from their hypnotic trance as they were taken by the gorillas. I shall not describe the horrible nature of their deaths.

CHAPTER VII.

The Great Conspiracy

AT the end of this ghastly affair the entire temple was thrown into darkness. When the lights went on again, the cages with their horror were gone.

I never felt more faint in my life and Dr. Peri looked like a block of white marble. We were offered wine and soon lost consciousness for it was drugged.

This episode, the terrible nature of it, showed Sais-Amen-Tanis could transcend all in cruelty as well as in brain power.

When I came to I found I was back in our chamber. Remembering Dr. Peri, I looked around for him. I saw him seated on a divan absorbed completely in a scroll. I arose unsteadily and went over to him.

"Lord, Peri," I cried, "I never even read of a more horrible scene than that which we witnessed."

He looked up, a strange expression on his face.

"Not nearly as horrible as this paper. Sais must have left it here by mistake."

"My God, what is it?"

"It is the death sentence of the human race."

"Peri, are you losing your mind? I'm afraid that scene was too much."

"Nothing is impossible, here, my boy. This paper contains the great plan. It has been greatly added to since it was first made. That is because the world is different in all respects from then. It is a plan engineered by the world's greatest intellect, and the cruelest. Sit down and hear a synopsis of its contents.

"As Sais has said it was started during the end of the fourth dynasty, forty-seven hundred years ago! It seems Sais made an amazing discovery about the time he made his elixir. Some unknown mineral was brought to Memphis by some Egyptian who had gone as far as the Congo. This mineral was given into the charge of Sais's father. Sais one day discovered a peculiar thing about it. When he placed small objects a certain distance away from it with light passing through this substance the objects became much larger.

"Sais therefore stole some of it for his experimenting. Soon he so perfected it that single celled animals became visible. Of course he did not know what they were at first. However it was not long until he became aware of the importance of his discovery. He soon learned he had access to a living world utterly unknown to others.

"He experimented in this world and came across peculiar things. At last however he organized his knowledge and as a result he knew more about micro-organisms forty-five hundred years ago than we do today. He made the collossal discovery that certain of these organisms and not evil spirits cause man's illnesses.

"He started to produce some of these organisms deadly to man and to produce new kinds. At length he made the terrible discoveries that threaten the world today. He produced certain bacilli that superseded all other deadly organisms. He took one of these bacilli and from

it produced an extremely deadly toxin in the form of a powder which when spread through the air and inhaled or caught on the eyes was absolutely fatal.

"Sais however, did not stop there, he produced an anti-toxin for it and put this anti-toxin in his elixir. All those that have the elixir in their blood need not fear the toxin! Therefore, if this powder were spread over the world all animal life above the simple forms would be annihilated except those with the elixir in their blood.

"Sais waited long for his plan to materialize. He had no intention of waiting so long, but through the ages difficulties began to interfere. Now at last after thousands of years he can make the world his.

"That is his plan. He, the young Pharaoh, and the other priest will rule the world. Of course he knows more about the world's extent and of his task than he did several thousand years ago.

"This horrible plan calls for the destruction of all the human race except his chosen in this place and in the other. He will also spare a few thousand Egyptian Copts to serve as a working class. After this part is completed he will go about setting up the Old Egypt.

"Do you realize that here in the laboratory rooms far below us are hundreds of Ancient Egyptians in the same state as Senmut and the girl and the Pharaoh? These people have still hundreds of years before them; some day Egypt will cover the entire world and no nation will dispute her.

"You know, my son, I'm afraid you can't appreciate the extent of Sais's knowledge. He far surpasses our scientists in every field. Once his forces are set in motion no power can stop them. Do you know what power was exercised over our men and the gorillas? Do you know what science Sais is master of, a science our world knows little about? Mesmerism, electro-biology."

"Sais is going to use it in—."

"Hello, gentlemen, I sincerely hope you feel well."

It was Sais coming out of no-where. How long he had been listening I could not tell.

"Hello," I stammered.

"Well, gentlemen, I just happened to overhear but don't worry. It is just as well, I was going to tell you sooner or later. Now we can go ahead. Now you understand my purpose, it is only fair I show you around and explain, come."

We followed him to the room of the sarcophagus. Here he stopped us and clapped his hands. A slave appeared bearing a scroll. Sais unrolled it and showed us a continuous series of drawings.

"Here are plans, plans of everything here above and below the ground."

For five minutes we examined the plans. We learned there were six levels to this central building. We were on the sixth. The two main experimental laboratories were on this level. Besides these on this level were Sais's rooms, one of which we occupied and other luxurious living rooms, the room where the Pharaoh lay, the temple, and quarters for Sais's attendants.

"Gentlemen," Sais began, "you have no doubt noticed the external features while you were being brought here. The fifth floor is on a level with the moat, this one above it, the first floor below. There are three elevators, one you saw in the temple, one in my main apartment, and the other in the main laboratory. This shaft in the laboratory not only extends to the main level but goes up to the surface through the pyramid.

"So you see, my friends, I usually leave by the pyramid, the mastaba is used but rarely. The chief laboratories are on this floor. I think you will find them most interesting so we will go there last. Come to my chamber and we will descend to the fifth level. This level is modeled after the court of Rameses II. This level is the most beautiful and as it's on the moat level it has the advantage of having its own terrace."

The Realm of Sais

WE descended to the most resplendent apartments I had ever seen. Sais conducted us through them. They covered the entire level and were beyond description. These rooms had been used by the Pharaoh Thamphthis before he decided to rest a few years.

"We'll go down to the fourth level now, it is there we keep our materialistic treasures." Sais said after we had looked over the fifth level.

We descended into a circular room which had halls leading off like spokes from a hub. We passed down one of these halls. Everywhere were Egyptian guards armed with swords and a deadly ray generator. From Sais we learned that the guards sent a code number at a designated time as a report to the control room. We entered one of the mighty vaults. The first thing to strike my eye was a peculiar machine in the center. It resembled the projector in a planetarium. It had disks like a projector has, facing in all directions.

"Ah," said Sais, "you like what your scientists call television? That is my device. A picture of everything in this vault is obtained in the control room. The control room sees all. Every vault is equipped the same. If anybody is found in them that shouldn't be, the air supply is simply shut off for a time."

I looked at Peri and he looked at me. We knew Sais meant what he said. We then looked at the coffers. They were carved from diorite.

"This," said our guide, "is the gem room."

He motioned us to one of the coffers. It was about four feet high, of the same width and about six feet long. I looked at the top and gasped. Across the top were incised thirty figures, figures of men standing upright, arms outstretched, head back, the Egyptian sign for million.

"Thirty million," I gasped.

"Look within," said Sais. He pressed a button and the cover rose. We were blinded by flashing gems, diamonds.

"They are all diamonds?" I asked.

"Yes. In the other coffers are rubies, emeralds, sapphires, and pearls. All of equal value."

We were shown the contents of the other coffers which were slightly larger. When we left the coffer I said:

"I should value this coffer at about thirty million pounds.

"That is but a part of our wealth. Come."

We went through vaults stored with platinum, gold, and silver. I asked Sais the total value. For an answer he took us into a chamber where two scribes were writing. He took a gold bound scroll and showed us the value of the treasure. Before us we saw a man with outstretched arms, and to the right and slightly above a small frog.

Sais smiled and told us he used the figures algebraically.

"Impossible," I cried, "one hundred thousand millions! You are mistaken. Besides where did you collect this treasure?"

"Based on the present value of these things, that is what they are worth. Of course I could not sell them for that, they would have no market. I did not collect, I formed or manufactured. I told you I know the laws of the atom and I know the ether. It is simple then to produce them for amusement. Now to the third level."

On the third level were laboratories and workrooms, finely equipped and producing new wonderful things. They, however, were secondary. Their work was given to them by the chief laboratories.

We then passed to the second level. Parts of it were horrible, freaks produced by the bio-chemists, animals for the experiments, monstrosities like the gorillas created by Sais. In one section were hundreds of captive birds and bats.

Then we passed to the lower level. This we found to be twice as large in extent as any of the others. One half was a series of store rooms, here were supplies of all sorts. Then Sais led us down a long hall to the other section. We were told by Sais that this would be an interesting part.

We entered a room of mammoth proportions, lit in violet. I felt a peculiar nervous sensation. Before us stretched long rows of tables constructed of marble. On each table lay a glass case. Dr. Peri and I correctly surmised their contents. In each lay an Egyptian, sleeping till the time was ready. With the elixir in their blood and by other inventions of Sais they had been sleeping for centuries. A drug like that in Nefti and Thamphthis produced the sleep. This drug produced a kind of coma where all the bodily functions cease. The elixir enables the extreme prolongation of the coma.

We saw the noble Senmut, who engineered Hatshepsut's Dier-el Bahri. It was like going back into Old Egypt, walking among hundreds of that old race.

Finally we came back to Sais's apartment where he had wine brought. If I had been bewildered before, I was ten times more so now. Sais talked and for the first time asked us questions about ourselves. He did not ask much, however. Then suddenly he asked, "What do you think of our intelligence compared to your civilization?"

"It transcends our civilization," I replied, "as much as that of your country surpassed other nations thirty-five centuries ago, except for one thing."

"And what is that, may I ask?"

"That is your outlook on human life. It is of a low, ignorant, barbaric type. True our civilization settles disputes by war, true we have murderers and other unfeeling people but our general view-point far exceeds yours. In your hunt for knowledge and facts, you missed the greatest fact, the thoughts of a man's mind determine him."

Sais laughed and exclaimed:

"Why, you are a philosopher! Well, think along your entrenched ideas, mine will become this earth's law. Now you shall retire to your chamber and rest, then I will conduct you to the chief laboratories."

We returned to our chamber and prepared to sleep. We did not know the time for I had forgotten to wind my watch and Peri did not have his. Of course the inhabitants of this place cared nothing for time. Also of course we could not tell night from day. It was because of these facts that a most startling thing happened to us.

Peri and I both went to sleep. I awoke first and then woke Peri. A little later Sais came in. How long we slept I do not know. Sais bade us bathe and then had food brought in. Finally he arose and said:

"We will go to the chief laboratories and then my proposition."

We followed him back to his apartment and then through a panel door. We found ourselves in a long oblong room. Along the walls were cases of chemical apparatus. Different machines were distributed about. The machines were highly complicated and though electrical little resembled any apparatus I knew of. Some did look like X-ray machines. Stony-faced men stood around at operating boards. Others were among the glass topped tables. Some tables looked like operating tables. One man was talking before a small coil of wire on a loop that was connected to a peculiar apparatus. Some liquids in it were being mixed in a horizontal tube. A conductor ran parallel to it about an inch away. Sparks were jumping across the gap.

Sais told us the man was talking to the control room. I saw two of the men apparently studying the effect of some rays on a screen. Sais told us that physical and chemical experiments were going on here. He took us to one end to show us the power unit. This was stupendous in its working. No person attended it. Machines were calculating equations. The whole thing was run according to absolute laws. The laws of the atom. Sais who knew these laws had machines to control them. The electrons and the protons follow certain laws, any one knowing these laws can figure ahead and get the ultimate equations. These ultimate equations give the energy of matter itself. These machines worked the equations and controlled the power.

CHAPTER VIII.

A Flattering Offer

FINALLY we left and Sais took us to the other laboratory where the control room and the shaft to the pyramid were located. It was about the same as the other in size and entirely of whit-

ish marble. The shaft to the pyramid was in one corner and a car was inside. The car went up by an ethereal wave pressure. At the other end was the control room. In between was the biological section.

We saw a human body lying on a table. I recognized it! It was Ahmet! The top of his skull had been removed. Sais toyed with a trephine and talked about the experiment.

"You see I am continuing my brain efficiency experiments. I used this man's brain for a certain substance I wanted, a sort of juice. In the brain there is a substance upon which depends its efficient functioning and nerve activity. I took some from this man's brain and injected it into the lymphatic glands of two of my slaves. I had worked with dogs and apes but you must have the human substance to inject into a human."

Further on we saw some men operating on bats.

"Ah," continued Sais, "here you should be interested . These bats are old friends of yours."

"How?" I asked.

"Well, one night they kept your camels company."

"Kept our camels company?"

"Oh, yes, these bats killed your camels. Let me explain. You shall see how much I depend on mesmerism. Yes, mesmerism is my all handy tool. The field of science it opens is amazing but by using my present knowledge I get necessary immediate results. You see I have control of all the lower animals here by the mind. By performing an operation on the brain the subject is rendered more susceptible.

"I will be egotistic and say I have the power over mind far exceeding any other. So all I had to do was get some of my bats. I choose bats of the vampire class with prominent piercing parts. Those parts were covered by a deadly poison. Then I sent the bats out under my control and did away with your camels, and incidentally frightened the guard to death. Too simple, too simple, come here!"

We followed him. There in glass cases excluding short length ether waves were tubes of that deadly toxin. Sais spoke.

"Look, my friends, gaze upon what soon will be spread over the earth."

"How shall you spread it?" I asked mechanically for his words brought me back to his terrible plan.

"Oh how simple. Mesmerism, my friend, I and my assistants will control thousands of birds who shall have the toxin powder dusted on them. The birds will have the anti-toxin in their blood so they will not be affected. Then the great scientists can try to protect the world, ha yes, they can try. The people here and at the other place have the anti-toxin in their blood, we need not fear."

"My God!"

"Ha! yes, thousands of birds will soon be scattering the toxin quite freely. Then after all are dead we will raise Egypt again to power and glory. Come here."

We passed to another part of the laboratory. Here we saw a dog, or what had once been a dog. Sais had been experimenting again at changing the actual bodily form of animals.

"See here, my friends, what would your zoologists call this? I have told you before about changing bodily form. I made cats as large as calves and vice versa. My gorillas are one of my larger products. Yes, the secret of the protoplasm opens many doors. Come and look at the controls, the heart of our abode."

We followed him into a glass partitioned room. I shall not describe it but quote Sais's explanations.

"Yes, the heart. Ten of my most intelligent scientists are always on duty here. To handle all the television five men are needed. My television scheme is far superior to anything known to your scientists. Here we receive pictures of strategic points. Control number one ought to interest you. From it comes pictures of the outside world. By means of it we watched your expedition. I saw the last expedition leave by it after I had five of them smitten. No. 2 gives us pictures of the mastaba on the ground, and the first two chambers underground and the corridor. No. 3 watches the terrace and the moat. No. 4 watches the treasure vaults, and No. 5 watches the fifth and sixth levels. So we see rather well.

"Here are the controls that operate all doors and panels outside of this structure, they also take care of the water movement. These operate all doors in the building. Here is an important set, the main power controls. With the mathematical machines, they guard the infinite power. This is the receiving and broadcasting system. Here the orders are sent. And these here, ah, this is where the ray controls are, those rays that disintegrate and rebuild matter.

"Now, friends, you have seen all. Here is your part and the terms. I have kept you alive and will continue to do so as well as allow you a life of luxury. If you wish power and time for research you will have it if you will consent to the terms given you. I have need of your services in carrying out my plan. Come with me to my chamber."

When we had entered it, I stood before him and in low even tones began to talk.

"Sais, do you think that we will ever consider aiding you in destroying the world and our people?"

"But, you will live in a much better civilization, you will have opportunities that you could never receive in your country. I want you to aid in the distributing of the toxins. Human aid is necessary and you are of your world, are well known and could do what I want you to.

"One of you I will place under hypnotic influence and the other I will not. I will send you back to your countries with valuable, no, invaluable archaeological objects, things that will create more interest than Tutankhamen's tombs.

"These will be sent to all big cities for inspection and with them shall be some toxin. You two men went out on an expedition so you can say you discovered these. If investigators come, you can tell them you found the relics at this place. If they investigate here I will have a tomb prepared

for them with enough relics in it to satisfy them. I have written and cabled your friends and government officials so they will not wonder why you do not send word.

"If any body comes here too soon I shall hypnotise you and give you some men and let you out to work. To yourselves you will seem normal and going on with your archaeological work. As for that boy of yours, who wasn't trapped, well, he was captured and brought here yesterday."

"You monster, do you think we will consent?"

"You still have time to think over your final answer. Whether you accept or not will not save your world. It would simply help me and save yourselves. I still have work to do and I command you to go to your chamber."

Peri and I, after we were back in our chamber, became nearly frantic. Soon all the people of the earth except a few would be exterminated. Our beautiful world was to be wiped out!

A slave brought in some wine and we both finally took some. After a short while I felt drowsy and my head began to swim. Dr. Peri fell back on a couch in a dead sleep. Suddenly all went black and I fell away.

The Escape!

A TUGGING of my side, an incessant tugging and a throb, throb, in my head. I wanted to sleep, how I wanted to sleep. Tug, tug, tug.

"Master, oh, Master!"

I twisted slowly my head in a sickly swirl.

"Master, oh, Master!"

Then my conscious mind returned. I struggled to sit up and open my eyes. The tugging ceased. I opened my eyes. Before me a face I had seen before and then my full consciousness returned.

"Ali," I cried.

"Oh, master, you are awake at last."

"Ali, where am I? What has happened?"

Then a terrible thought flashed across my mind.

"Are the people in the world all dead?"

"No, master, not yet."

"Thank God, but where is Peri?"

"Over there, master."

I looked and saw him lying in a case. Looking around further I saw where we were. We were in the lowest level, in the room of the death sleep where hundreds of Egyptians were.

"Peri!" I cried.

"Softly Master, he is but in Sais's sleep."

"That wine last night," I said, "must have been drugged, but how did, how did you get here, Ali?"

"The wine you drank seventeen months ago was drugged, my Master, not last night."

"Seventeen months ago?"

"Yes, my Master, you and Peri have lain here for seventeen months."

"My God!"

"Follow me, Master, I have found a way for your escape and I will explain. Dr. Peri will be all right."

I followed in a daze. We went into the store chambers and there I heard faithful Ali's story.

As Sais had told us, he had been captured. Sais, fortunately for Ali, had use for him. It seems something happened to Sais' laboratory servant. The elixir in his blood was not the same as that in the others and the toxin had killed him. He was mummified and his mummy case was made. Sais had him put in the burial chamber of the northwest mastaba.

However, two French Egyptologists found it, and this was the mummy we had seen and commented on at the Louvre.

Ali took his place. Sais had yet to finish constructing his bogus tomb and he wanted us out of the way for a time so our wine was drugged. Then while we slept he introduced a small amount of the elixir and the other more powerful sleeping drug, and we had been taken down here.

Ali had found this out but he never could go down. Then Sais did something that indirectly aided Ali. He awakened Nefti as he felt he soon would be ready to sweep the world. Then I learned Nefti never had favored Sais' brutal plans. She heard of us and wanted to see us but Sais forbade her.

However, she managed to steal down. Now here comes an embarrassing part. Ali claims she fell immediately in love with me, and took pity on me. Rot of course but at any rate she came down several times.

Learning Ali was our servant she questioned him about us. Ali was by this time learning Ancient Egyptian, and he saw immediately that through her he might aid us. Sais told Ali of his plans about us and Ali told Nefti.

She therefore determined to free us. Ali, jumping at this chance, gave her suggestions. He knew from the first that it would be best to free only one of us. He told Nefti she would have to get some of the neutralizing fluid before Sais himself awakened us. This she finally did.

Then with her aid and a slave who obeyed her, Ali was projected down to me by the ray. This was possible because in the store rooms were receiving cabinets.

I embraced Ali warmly and thanked him.

He told me that Sais wouldn't come down for six weeks and I must escape right away. He said we would take the shaft up to Sais' chamber where Nefti was waiting. Quietly we sped up to the sixth level.

I stepped out and then involuntarily gasped. Before me stood the most beautiful creature I had ever seen or ever hoped to see. Dressed in the most gorgeous raiment stood Nefti. She, herself, I shall not try to describe. Words are inadequate. She overpowered my sense like some sweet but potent drug. She glided over to me and said three words in English.

"How are you?"

I stammered like a school boy and said:

"Er, uh, fine, that is extraordinarily fine, er uh."

Ali whispered to me that she understood very little English excepting that which he had taught her. She laughed lightly. Ali saved me by seating us and playing interpreter. That our conversation was meager mattered little. I immediately became infatuated with her.

It all seems so peculiar now I think of it, sitting in that place talking to a princess of ancient Egypt. Her eyes continually sought mine. Ali said however I had better eat and hide for the

night. I was to hide in one of the slave quarters. Going, I lifted her hand to my lips and kissed her fingers.

All night long I thought of her. I say night, but it may have been day outside. When I awoke Ali brought me food, saying, I was to leave immediately. Nefti, he said, was up in the pyramid. When I finished he had made the shaft car ready for luckily no one was around. I asked if Peri would be all right and Ali assured me he would. He was going to stay till I came back. With tears in my eyes I bade him farewell. The car shot up to the pyramid.

I stepped out and stood before Nefti. I followed her down a passage way. We came to a great wall on which Nefti pressed a stone and two panels on it slid open. We stepped into the opening and the panels closed. Inside Nefti pressed another small stone and we moved. A bluish violet light lit up the interior.

Suddenly the motion stopped and the panels slid open. I gazed over the desert and at the Egyptian sky. We stepped out and I saw near us a fine horse. She handed me a paper which I found out later Ali wrote for her in English.

In the light of the desert moon I read the message. On it were the words written by her direction.

"Oh modern man, take this horse which is equipped and escape. The horse is a product of Sais, it knows no fatigue. Rescue your friends and when you destroy this place as I know you will, always remember Nefti."

Tears came to my eyes as I finished. I looked at her. God, but she was beautiful. Then I stepped towards her, took her in my arms and kissed her. She sobbed and clung to me. I made her understand I was coming for her and then I mounted my horse. I see her yet standing in the light of the Egyptian moon. Standing before the structure reared by her peoples.

I traveled with all haste to England, here I am, and you Donald are the first to hear my story.

What do you intend to do?"

CHAPTER IX.

Back to the Tomb

THIS was the remarkable story I heard from Alfred's lips. The dawn's first light was creeping the room when he finished. His eyes were staring in front of him and his face was white. I had sat like a statue all through his story. Now I arose stiffly.

"Lord," I said, "I doubt if any man ever met so much adventure, but let's have a whiskey and soda."

"You talk of whiskeys and sodas after what I have told?"

"Oh, come, I realize the full import, just give me time to think. After all, you know you can't run right back to Egypt."

"Yes, but my God, every delay brings us nearer to the fatal time. Think also of the fate of Nefti, Peri, and Ali, if Sais discovers I have escaped. He will immediately set his plan in operation. That is why I came to you. If I told the authorities they would go blundering around before they would believe me and Sais would start at once."

"That's just it, secrecy and then a surprise attack. I know Dr. Taylor and through him we will get in touch with the heads of Scotland Yard. I will call him at once."

After a light breakfast we were speeding in Stewart's car towards London. At eleven thirty we pulled up at Scotland Yard headquarters. Exactly twelve hours since I was first ushered into this mad thing. Dr. Taylor was waiting for us and we were quickly shown in to the superintendent.

There before the superintendent, Dr. Taylor, Lord Beachley, and myself, Stewart retold his story more briefly. I saw looks of astonishment on the faces of three men, but not one bit of disbelief was registered.

The superintendent sat and toyed with his pen, arose, and paced about the room. Lord Beachley and Dr. Taylor sat and looked at me. Stewart became impatient. "My Lord, say something, what plans have you?"

The superintendent wheeled, dropped his pen, and spoke.

"Here's what we'll do. We'll get in touch with the Foreign Office immediately. We'll state the facts to Sir Arthur Kent and then after communicating with the Egyptian Government, set out for Egypt. Somehow or other we'll get Dr. Peri and the others out of there and then we'll come to terms with Sais."

"We'll never come to terms with him. We'll have to capture him forcibly, but how?" I asked.

The superintendent continued speaking.

"I will have an air-force situated in the desert nearby. You, Stewart, will have to get back in and learn the location of the other place. Nefti knows most likely. Get Nefti, Peri, and Ali out of the place, then see Sais and try to get him out. If you can't do it, escape yourself. If Sais tries to carry out his plan we will immediately bomb the place. By tomorrow I'll have you on your way back to Egypt."

The next day saw the completion of our communications with the Foreign Office. That evening I was with Taylor and Stewart on a boat-train. My mind was in a whirl. The chances were all against our succeeding. Little did the world know of its impending fate.

I could easily see by the way we were received at the various stops of our journey, by secret government officials that word of our mission had gone ahead of us.

At Alexandria we were hustled on board a large transport airship. We flew along to the west of the Nile and as we neared Cairo we cut straight west across the desert. The pilot kept at a very high altitude. Finally we changed to a more southerly direction and Stewart told the pilot to drop lower.

Far below I could make out black blotches on the desert sands. Stewart said:

"That's the place, but don't go any lower. We'll land five miles to the southwest." The plane kept on to the southwest and just at sunset we landed. Stewart, Taylor, and I got out of the plane. What we were to do had been all pre-arranged. Stewart and I were to go on to the Pyramid. Taylor was to

stay with the pilot. Stewart and I started off through the night across the desert.

When we first came in sight of the pyramid, Stewart told me to drop to my knees. When we had approached a little closer he told me to crawl. He said we must escape the watchful eyes of No. 1.

I could tell well enough that Stewart must have been in a state of great suspense and apprehension. If the suspense was hard for me to bear it must have been doubly hard for Stewart. At last we reached the base of the pyramid. I could see the silhouettes of the mastabas outlined against the sky. I had no time before to speculate on my surrounding but now the full eerieness of it dawned on me. I shuddered involuntarily.

"Donald, give me your light. Nefti has shown me a stone, a secret stone that will open the wall. Ah! Here it is. God, if No. 1 spots us, we're gone."

I wished I were two thousand miles away and told Stewart so.

He did not reply. Suddenly, noiselessly, the front of one of the big base stones slid apart, panel fashion, the ends sliding over the other stones. Inside I saw a small cabin. Stewart and I went in and sat down on small seats.

Stewart pulled a lever closing the panels. He pulled another and we started to move. When we came to a stop, the panels opened and we stepped out into pitch darkness. I stood still while Stewart cautiously snapped on his light. After looking around he put out his light and came over to me.

"It's nearly nine o'clock. Time is nothing to those below but Ali, who has a watch, goes to the control room at 10 P. M. every night. Tonight when I give the signal Ali will let us down."

"But how about the ten men in the control room?"

"It's then that shifts are made. Only one man will be in the control room for several minutes. Ali will drive a knife through his spinal column. One hour more."

We waited, it seemed for a year, until Stewart pulled out his watch.

"Ali should be there in three minutes. I will give the signal then. If somebody else gets it we're done for."

"Run, Master, Run!"

IN three minutes Stewart gave the signal. We waited. Then an answer in Stewart's code. I followed Stewart to the elevator shaft. The area about the shaft was lighted. I saw the car, a globular thing rising without support. It rose to the floor level, stopped, a door swung open and we stepped in. The car descended.

It stopped and Stewart went to the side door. He opened it and stepped out. I heard him talking quickly. Then he told me to get out.

"Come quick, Ali has the body of Raamen. When the others come he will say Raamen has gone and he is to take his place until he returns. Nefti will meet us in the temple. Come!"

I hastened out, looked at Ali, looked at the wonderful laboratory and followed Stewart. We passed into an Orientally furnished room, then into a large nearly circular one, the room where Thamphthis the First lay. Stewart grabbed my arm and we passed into the temple.

Something rustled beside us. We turned and there stood the most beautiful woman I had ever seen. She looked like a blending of the finest Oriental and Occidental womanhood. Stewart took her to him and kissed her. She clung to him, murmuring. Then she saw me and started.

Stewart laughed and indicated that I was harmless. I bowed to her and she smiled. Then she motioned us over to a great statue. At its base she pressed a button and a door flew open. We were to hide there till Peri was free. We stepped in and the door closed after us.

Two hours later our hiding place was opened. With Nefti was an oldish man with a ghastly expression on his face.

"Peri, my old Peri, good, she got you."

Stewart and Peri embraced each other; there were tears in Peri's eyes. Nefti gave us all food and put us all back in our hiding place. After waiting until we were all cramped I was aroused by hearing people walking around in the temple. Peri and Stewart too sat up and listened. Then a voice spoke out in a strange tongue.

I could not see either Peri or Stewart but from their hoarse whispers I knew that they were highly keyed up. Stewart whispered to me.

"It's Sais."

The voice ceased and we heard the sound of footsteps leaving the room. Peri and Stewart seemed shaken because of hearing the terrible Sais. I, myself never had contact with him but I felt chilled.

We heard a step outside of our hiding place. We sat up. The panel opened and Ali quickly stepped in. His voice trembled.

"Oh, Master," he cried, "Sais is terribly angry because Raamen is gone. He does not know he is dead and he is looking for him. He sent me from the control room and ordered one of the scientists to take Raamen's place. He sent Nefti to her chamber and is going to search every level for Raamen. What if he goes below and finds you gone?"

"We must get out of here. Ali, will you try to bring Nefti here?"

"Yes, Master, but I have a plan. Two men here are greatly devoted to Nefti, they also have worked in the control room. I will send them saying Sais sent them, to the control room. They can go while Sais is below. Control operator No. 1 and the shaft operator will be recalled. Then you can all escape."

"Yes," Stewart began, "but we want to upset Sais' terrible plans, and how will you escape?"

"Master, I will take care of all. Do as I say. I will be all right. Say goodby to me for the present."

Stewart embraced Ali and with many a break in his voice said:

"Ali, there never was a more faithful, loving and brave lad. You will join us at the shaft. Goodby for the present, Ali.

Peri embraced Ali and I shook his hand and then Ali went out.

Poor Ali, if Stewart had known that that goodby was to be the last, he never would have let him

go. Ali, faithful to the last, had bidden his master his final adieu.

A few minutes later we heard someone approach and the panel opened. There stood Nefti.

"Come," she said, "Ali fix."

We followed her out of the temple, through the room of the sarcophagus, through a chamber and into the laboratory. We passed unnoticed to the pyramid shaft and got in the car. The only one who saw us was the one at the controls of the shaft. The car sped up the shaft and we got out of the car.

We waited in the pyramid and then from a receiver near the shaft we heard Ali's voice.

"Run, Master, run. Get out of the pyramid and run into the desert. I will follow you. Run!"

We ran to the secret wall car and soon we were out in the open. Fortunately we continued to run away. Suddenly there came a deafening roar. The earth shook and we were pitched down. It seemed as though the world blew up.

When we arose Stewart turned and exclaimed. "My God, look."

We turned horror-stricken and saw that the pyramid and the mastabas were no longer there. Instead there was a great crater. Stewart stepped shakily forward and then cried:

"Ali, Ali, my Ali."

One hour later on board the transport and accompanied by a score of other planes we were on our way to Cairo.

Sir Arthur had arrived with the bombing patrol and had come to us after the explosion. In the main cabin we told our tale, of how Ali wrecked the "energy of matter control" and destroyed all. Nefti said this is what Ali must have done; probably because Sais had found out that Stewart and Peri were gone and was about to wreak his vengeance. That final scene is known only to God.

We told our tales again in Cairo and London. The other headquarters of Sais were located with the aid of Nefti and destroyed. Thus was brought to a dramatic end the world's greatest peril. Stewart, Peri, myself and above all Nefti were honored throughout the world.

Three months later Stewart married Nefti and went to America. Peri went back to France and became honorary director of the Louvre. I, myself, am able now to take life easy and am content to rest peacefully in England.

THE END.

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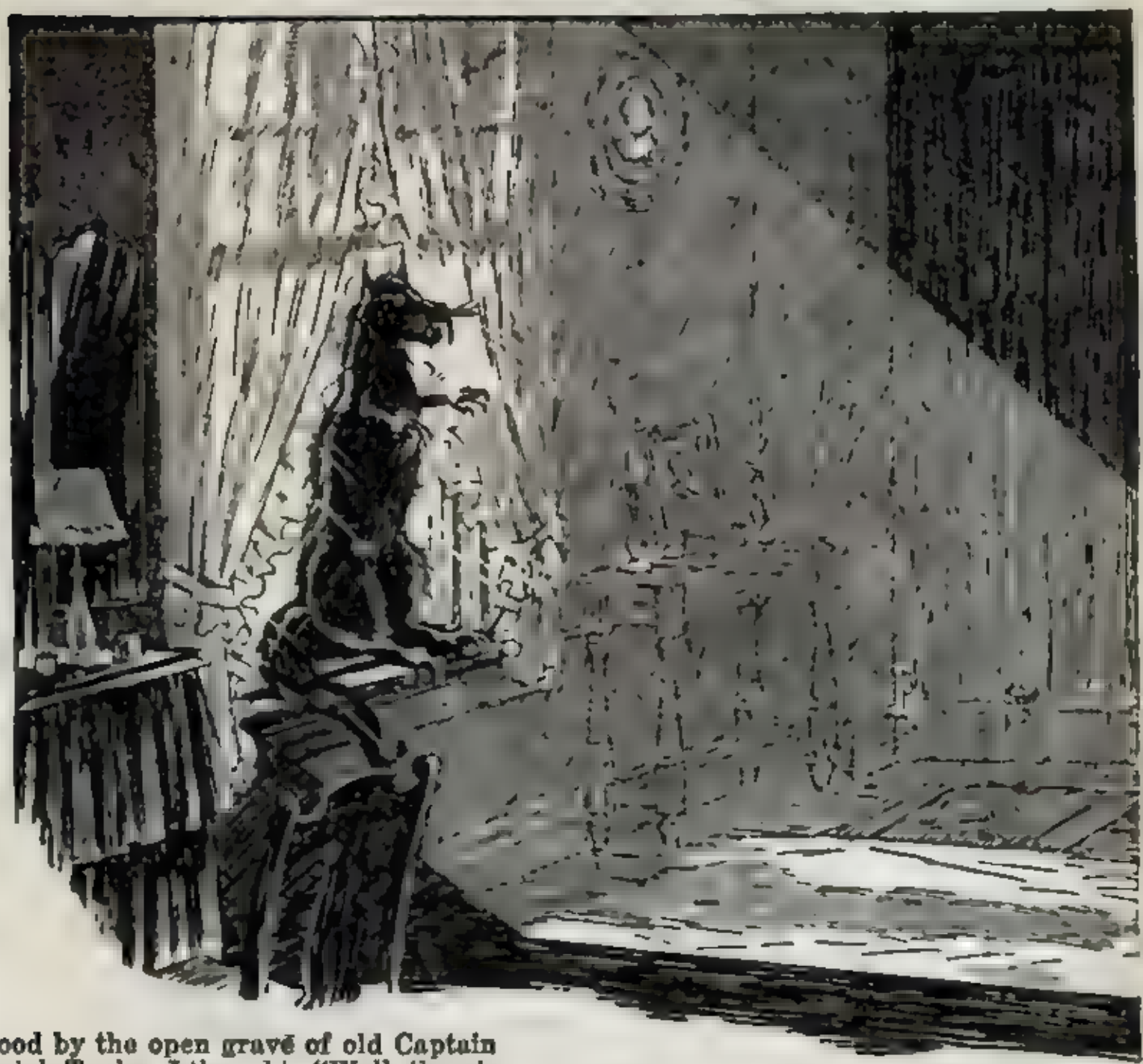
The Revenge of the Chosen

By **Thomas H. Knight**



Something about those eyes and the calculating stare numbed me at first. But I knew what I must do.

AS I stood by the open grave of old Captain Jeremiah Taylor, I thought: "Well, there's one case of a man's fears failing to materialize. There's one man who didn't die the way he thought and feared he would."

The gravel rattled down on the box enveloping all that remained of the hardy old sea-dog. And I wondered if the old fellow inside were thinking it was a drummer from one of the many dark corners of the earth he had spied into tapping out some tribal message on his weird tom-tom. Dimly I heard the monotonous murmur of the minister, sing-songing the last of the simple service. Then my imagination went out and away over those seas of Captain Taylor's, looking into the unchartered ports and lands the old chap had often yarned about.

By his own words he had been an adventurer, his roving desire to look into things taking him into many a tight place. I could see his wink

THOSE who have traveled into the remote corners of our globe return with stories that appear to the untraveled to be pure fiction. They speak of tribes, customs, animals, plants and civilizations that seem to us impossible of existence in our more or less matter of fact age.

Yet, as our author shows, there are more things, to misquote Shakespeare, than are dreamed of in science fiction. This story is so realistic, it might have occurred in actuality. The "Chosen" are quite possible of existence, and so is their "messenger." As to the dread power of hypnosis that they exercise, there is much dispute. We occidentals laugh off as "day dreams" the talk of strange powers over the mind possessed by many sects. But read this story and be convinced that what our author relates might have happened to any of us.

(Illustrated by Marchioni)

again; hear his lowered voice as he told of deeds that must be kept secret, deeds doubly thrilling to the boy at his feet.

"This is a quiet old home, Jimmie," he had once said, pulling on his queer, long pipe. "Nothin' happens here in this peaceful community. We get to thinkin' the whole world's civilized and all clean above deck. But it ain't! I know some things. I've been into some of the dark holes of the earth. I've seen witchery and magic and—worse!

"It's hard to believe here among the flowers

and my old colored people, gentle and mild as they are with their ardent and singin' praise to your God and my God, Jimmie," he went on, "that there are human devils loose in the world who can pray their victims to death. You, with your parties and your tennis and your makin' eyes across the pews instead of listenin', you may want to laugh when I tell you that all they need—those hellish, prayin' priests—is a lock of hair or such to mumble their prayers over. Then, first thing you know, the owner of the hair wilts and withers, and then he 'goes away'."

The old man nervously thrust his pipe back between his teeth and quickly changed the subject, telling me of some sacred jewel that had taken his fancy and that he in turn had taken from the neck of an idol. I was only a boy when he told me. It thrilled me to hear him relate how he had to lie all night in the gruesome temple waiting for the dawn and the opening of the doors that he might escape. But, boy though I was, I could tell the old fellow was more than just excited. There was fear behind his words.

Then, as my increasing years suggested other reasons for my visits to the quiet old southern home besides its hospitality, the Captain came to regard me less as a boy and more one to whom he could talk as an equal. The Captain and I stood one evening on the lawn beneath bright stars. I would rather have been in the house from which came the alluring tinkle of the voices of the Captain's two lovely daughters. I was wasting my time out there with that nervous old sea rogue, but he held on to me. Something was preying on his mind.

THOMAS H. KNIGHT

"Jimmie," he said, "this thing's gettin' me."

"What thing?" I asked. "I don't know enough about it one way or another, but you're foolish to worry like this. Man alive, Captain Taylor! Could anything be more peaceful than this old home tonight? Come on, sir. I would rather go in and dance with the ladies than——"

"You're frank, you landlubber, if nothin' else," he laughed mirthlessly, "but you don't understand, my boy. Jimmie, I'm scared. They don't forget, I tell you! They never quit. I wish I could put it back." He shivered, and though the night was warm, I shivered with him. What was he talking about? Who were they who never quit? Then he went on: "Y'take a calm, peaceful night like this, just when y'ought to be thinkin' you're safe, or else not givin' a thought to it, and then—then—— I tell you that kind never quits! Yes, come on, let's go in."

That had been a month or so ago. He had not told his family these things, but they had known he had been afraid of something, that lately he seldom stayed alone, and that darkness held a terror for him.

So rambled my brain as the dirt fell into the grave. Some one plucked at my sleeve then and I came out of my reveries to realize that the burial was over. My thoughts, however, as I helped the mourning family into their car, were still upon the needless fear to which the old man had surrendered himself.

"He spoiled his last days," I thought, "with his apprehensions. All this while he had been afraid of some horrid, violent death, and instead of it happening that way, he had died peacefully in his bed. There's nothing in that evil-eye or witchcraft stuff he hinted at, anyway. All bosh! Given a sick brain, heat and bad gin, and out of the tropics comes some derelict, white with a tale of a demon priest, for the world to swallow."

The dirt was hardly smooth above the Captain's body before we were again gathered around that grave. Yet this second death did not alarm us, nor did it cause us to believe there was foul play. My sweetheart's mother had long been ailing, and it seemed to us who knew her sweetness that she was merely carrying out her faithfulness when she quickly followed the sailor into the one port he had never before made. There was nothing strange about her peaceful passing.

But when news came in a few more days that George, the only son, had died, everybody, even those who knew nothing of the Captain's fears, murmured: "Three in a row: there's something wrong there!"

Mysterious Marks

I was away from our little town when I heard of George, but I tied my throttle open and gave my car her head. The Captain's fear was now upon me. I thought of tracking, merciless priests, as I rushed across the country, and I knew I should hear desperate tidings when I arrived.

I quickly found out that George had, as I was sure he had, been murdered. Killed in broad daylight, suddenly, under the very eyes almost of the two sisters and the large number of servants about the home; yet not a trace of the assassin had been seen. The local police were stamping all over everything and each other, accusing the servants of being guilty or at least knowing who on the inside had done it. In my rightful interest and new fear for the girls, I hastily assumed as much charge of affairs as the police would allow, and either by sheer luck or perhaps because I was not quite so stupid as they, I stumbled upon the only clue as yet uncovered.

"What are those two marks, like punctures, beneath George's chin?" I asked, pointing toward the body of the chap with whom I had played football.

"What marks? Aw, them's nothin'. Birth marks prob'bly," the local detective replied.

"Bess," I asked gently of the girl I loved now more than even, "did George—that is—had you

noticed marks like that on your brother lately?"

"No. And, Jimmie—mother had them too. What does that mean?"

"That jest proves it," broke in the local Sherlock Holmes. "Didn't I tell yer? Birth marks. Like mother, like son—"

"Shut up!" I interfered hotly. "Bess, do you mean you saw marks like these on your mother?"

"Yes. Both Ethel and I noticed them, but we thought it was part—of—of—you know—the undertaker."

The autopsy when finally made showed that George had died from a virulent, unknown poison. And I knew in my heart that had they looked beneath the whiskers around the Captain's throat, also, more of those strange punctures would have been found. I knew then that the thing the Captain had been fearing was a real thing. A cruel murdering thing that had struck its death's hand into the family three times.

"Uncle Ebb," I said to the faithful old colored major domo of the house, "tell me all about it."

"Nuthin' to tell, Mr. Jimmie, only dat some debbil's loose in de 'ouse. Mr. Gawge had done gone to 'is room to lie him down a spell. 'Not feeling' so well, Uncle Ebb," he says. Ah wuz standin' heah. Look, dere's 'is doah. Fust thing ah knows ah heerd a scream. Lawdy, whut a scream! Ah went a-runnin'. Ah knows he needed me. But, ah wuz too late. If ah'd knowed den whut ah knows now, ah never would a-went so brave, but when ah got dere he wuz gone. De winder wuz open. Down in de yawd Mike wuz a-washin' de car. 'Which way's he went?' I yelled. 'Didern't come,' Mike yelled back. 'Must be in de 'ouse.' So, dere y'are, Mr. Jimmie."

"Yes, that's what they say, Uncle Ebb," I said. "You claim he didn't escape through the house; Mike says he didn't come out the window."

"Mike, are you sure he didn't slip out over this roof?" I asked a moment or two later.

"No, Mr. Jimmie, I'm not," he answered. "But I was sure once. And I've sworn on oath that he didn't come this way. I've always believed I was fairly sane, but—if he didn't go out through the door into the house with all the folks there swearing he didn't, then he must have come this way. But, by blazes, he didn't!"

"Where were you?"

"Right here. Washing the car. The moment I heard him scream, I grabbed a wrench and waited. I knew it was bad. He wasn't the kind to cry easily, was he? I kinda knew it was murder. But he didn't come! No sir! I swear it!"

I told the police of my sinister fears, but they laughed at me. I started to tell them some of the hints the Captain had dropped about voodooism and witchcraft, but they asked me what blood and thunder had I been reading. Then, they left us, promising to take it up again in the morning.

In the morning! Left us for the night in that rambling old house with a year of darkness upon us! I feared the hastening night now as the Captain had feared them. Three deaths, one after the other; two sweet girls alone remaining of the marked family, one of them my own adored sweetheart, and I alone to stand between them and—and—what? "What was it that lurked and pounced and killed so quickly? That killed in the open, beneath many eyes, and yet could not be seen?" my staggering brain wondered.

The shaking Uncle Ebb and some of his henchmen stood guard at the door of their mistress' room while I, heavily armed, watched their window from the lawn. It was a superbly clear night, the moon a ball of silver. No creeper could have climbed to their window without my having seen him or tearing him to pieces with the charge from my gun. But nothing happened, and at last dawn came.

A Challenge

TWO days and night of fear and unrest passed; then, the postman, innocent medium, brought us a letter containing a warning. Just a few words they were on a small square of brown linen, the threat lettered in ink. "Place the Green Heart on the sundial tonight, else thou, too, shalt die.—The Chosen of Aracas," was all it said, but it threw the girls into a panic of fear.

We hunted the house through for anything that might have looked like a sacred "Green Heart" but we found nothing, though the home was full of trinkets and souvenirs from the dark sink-holes of the earth. But for all our fear, I managed to find in the note a cause to buoy up my sinking courage a bit.

"It's going to be another clear night," I said to the girls, every bit as hopefully as I felt. "We'll fix up a package for the sundial, and when he comes to get it—well, the chosen son of whoever it is'll send no more warnings. Ebb and Mike and I'll fix him."

Ebb stood again that night at the door of the room which sheltered the girls we three would protect to the last ditch; while Mike and I stationed ourselves at two different windows. The lawn lay beneath us like a stage in a spotlight. The sundial and the package stood out staringly. Mike had a pump gun loaded with big shot, and I held a heavy rifle. If he came, he would not stand a chance. I knew I could not miss him, and I knew my heavy bullet would about cut him in two. But, would he come?

As the night went along I began to doubt it. He'd be a fool if he did. But so full of fear was I becoming for my dear one, that if he did come, I would draw a line on him, make sure I had him right, and then I would tear loose at him!

One or two light fleecy clouds crossed the moon, but the resulting lacy shadows on the lawn were no cover for a creeper. I stood wider awake, held my rifle in faster readiness, wished he would risk it and make a rush for it, but he did not.

And yet—and yet—in a little while I knew something had happened. I hardly knew what it was at first, my brain refusing to believe that the sundial *had* been visited. But it couldn't be denied for long. The top of the sundial was different! The box *had* gone!

Had I been watching the lawn alone that night, I should have been forced to believe I had dozed for a moment or two, but there was Mike, too. He had not slept, even if I had. Next day his face was white and drawn, and he refused to be left alone. He could understand no more than we could a thief who came and went without being seen, while anxious watchers closely watched.

Three days passed. Three long-drawn days of fear and wonder. Then we had another note on the square of linen again demanding the "Green Heart"—a last warning. And because we had been unable, despite our desperate efforts, to unearth the thing, we felt we were indeed in our last trench. Weary from loss of sleep and the horror of the intangible, hanging death, I was at my wits' end, frayed and worn, and ready to try anything.

"Tonight," I told them as shadows began to fall and the horror of another year of darkness encompassed us, "tonight must finish things up. Here's my plan. I admit it's desperate, but we've got to do something. We'll put out another package, and Ebb and Mike and I'll watch. You girls will go to bed, (or pretend to), fully dressed; and I'll watch from your room. Your window will be open. When he finds for the second time that the package is a fake, maybe he'll—I hope he comes to your window. If he does, I'll be there ready. What do you say? Can you trust me?

They assured me they did, to the limit. "We'll do anything," they said, "to get it finished." So, just as an extra precaution, in case I should nod, I stretched a fine thread across the open, inviting window. Anyone creeping through would break the thread and drop an attached weight into a metal pan. But I should not need the alarm, for not even the devil, himself, could catch me napping that night! No, by Jupiter! Not with the kind of visitor I would be expecting. I only hoped for one chance at him. All I wanted was the murdering dog across my sights for a short moment!

At last the lights were all out, the house in apparent peaceful sleep, the bait on the sundial, and I sitting in a deep shadow beside the bed in which the two girls lay huddled together. "What trust they must have in me," I thought, as minutes and hours and time itself hung still. "And what a fool I was!" I muttered when after a seemingly long while a wary glance at the mocking, lighted face of my watch told me how little of the night had actually passed. Could we stand it? How long before the girls would be in hysterics, and I myself shouting to Ebb to flood on the lights?

The moon was full again, not even a puff of a cloud in the sky. I could see the sundial plainly, could see that the box was still there. The clock in a distant steeple flung its passage of creeping hours across that silver-white night, while I knew, completely, what an imbecile protector I had been to the girls vainly trying to stifle their sobs beside me. And while they sobbed I waited. Waited for some human devil or some uncanny, weird, ghostlike, wisp of a thing to come creeping in to administer its death through two little blue holes beneath the jaw! Only a hard-dying pride made me hold to my purpose.

A Long Vigil

TIME had completely forgotten to move somewhere in between the chimes of the early morning when, suddenly, my heart jerked hard into my ribs! What was it? I had heard nothing real, yet there pounded my heart—thump, thump, thump. I felt it coming, whatever it was. The girls gave no sign of having heard, but I knew it was coming up over the porch roof beneath the window!

It was too bright a night, really, for a creeper to have crept past Mike's eyes, if not my own, but he must have done it for my rackety heart knew he was near. Then I steadied. My finger slipped in on the trigger of the automatic rifle. The fierce clenching with which my nervousness had gripped the stock left me. I was cool. Now if he would only come the full distance!

My eyes burned from my straining staring, and I blinked and held them closed to wipe away the dryness. When I saw things clearly again, I saw there was a shadow on the window-sill. I reaised my weapon. He should have it at my first sight of him! Then I knew that the shadow was not a shadow, or else had changed from a shadow into a smoky-colored rat. A huge rat. God, what a size it was!

It was ironical. It was mockery. A moment before I had been keyed up and expectant, believing the shadow to be the forerunner of a beastly murderer, and that my time—and his—was at hand; while instead, it had turned out to be merely a huge, overgrown, filthy rat. But I was much relieved. Now that the strain was over I was glad I had nothing but such a harmless thing to contend with. I leaned quietly forward to shoo the animal away.

But suddenly I stopped! That thing on the sill turned its head. It drew more of its body on the sill. Then I saw it was not a monstrous rat, but a——I groped to name it——an Indian mongoose! Fear took me again.

The eyes of the creature rested on the precious occupants of the bed, and there the cruel gaze remained. Something about those eyes and that calculating stare numbed me at first, but then like a flash came the knowledge that here was—here was—the murderer! "Perhaps, after all," hammered my keen or crazy brain, "it was not even a mongoose." But I knew what I must do. I was on the point of pressing the trigger when, light as a snow-flake, it dropped into the room. Half way across to the bed it stopped its steady, sneaking way to gaze again at the girls, and that fearful beast, twice as large as a mongoose I was sure now, with its long, pointed, horrible nose—and its eyes!—and its tail as large and as flat as a beaver's, made my blood chill within me. I looked into its eyes, looked through them it seemed into the brain beneath, and in my well-nigh delirious foolishness, believed the brain behind those eyes to be human!

It was gently slithering up the bed-post before I came to myself. Then I loosed my hot metal. My first shot tore it from its hold, my second hurled it across the floor, and the third blasted it, shattered, into a corner of the room.

No need to dwell upon the pandemonium that ensued. Lights flashed on and Ebb and I carried the younger girl and helped Bess into the library, and there we huddled until daylight. In the morning we carried that horrid thing to a nationally-known naturalist who lived out of town a mile or two, and the decision handed down by Professor Hardy made of me not just a slayer of vermin, but something of a hero.

"This is a menagause," explained the old gentleman excitedly. "Very rare. Very rare, indeed. We've heard of these beasts, but I doubt if another living naturalist has even seen one. I am indeed fortunate. You undoubtedly have cleared up the mystery. See! Here are his poison sacs. Nothing more virulent than this. Kills in a moment. And here, see, are his fangs. Two. These caused the punctures beneath the jaw that——"

"No thanks, Professor," I interrupted, "that's all I care to see. Take my advice. Handle him with steel-lined gloves. Good-bye. I've had all I want with the thing." I left him then glad I had been able, so unexpectedly, to supply the naturalist with such a rare specimen. But I was far from being satisfied. At first flush of excitement it had seemed as though I had rounded up the murderer, but now upon second thoughts it was certain that the beast, well-trained as he may have been, had not been writing notes! No!! The creature I had killed had only been the medium of death. The instrument of the real poisoner. The question then was, did the killer, (this "Chosen of Aracas"), have another such instrument of vengeance?

Then there was that other thing that persisted in bothering me. That ghastly thing that I kept to myself——those eyes and the brain I believed I had seen behind them! It was a horrible thought, and foolish, but I could not throw it off.

Days passed, slow days, while we guarded the girls and took every precaution, and waited for his next move. I was far from being myself. Not only were my nerves tearing apart, but the loss of sleep was using me up. When I did fall into a chair, I slept at once. I dozed leaning against the doors or while talking. But it was never a real sleep; more like a harrowing anaesthetic or drug slumber—never refreshing me. My dreams were a continual mixture of the wonderful love with which I loved Bess, and which I dreamed she reciprocated, and a nightmare of the beast I had killed. That creeping menagause had left its indelible impression on my brain, and there it ate into me.

At first they were just nightmares through which the beast crawled back and forth; but after a while it harassed me, clawed me, scrambled all over me, and reached for under my jaw. I became even afraid to go through the house alone for fear of meeting it. I knew then I was losing my mind.

A Clue at Last

WHEN I grew thin and the stare from my eyes frightened them, they called a doctor. He was doctor enough to know that I was sick; that I would collapse if something were not done, but what it was that ate at me was where his diagnosis had to stop. Sometimes, especially after a severe spell, I would be particularly clear-minded, and then I would see something that at another time would have given me a thrill of satisfaction. Bess was not just mothering me, worrying with me, fearfully alarmed for me, merely because she was a loyal little soldier sticking to a pal, but because she was growing to——. But, I thrust this lovely thought from me. A madman was not the sort to think of love and such a superb girl as Bess.

They kept the news from me when another piece of linen came. But in one of my clear spells, seeing the new fear in the lovely eyes of Bess, and demanding to know the reason, they showed it me. I took it in my hands, but so quickly was my brain likely to change in those days, that even before I had read the lettering it carried, I was, in a dreamy, vaporish way, back in France again up in the clouds. High in the blue of it, far above the battle below, with a metal-pouring German on my tail. I dived in that crazy dream of mine, swung on my joystick, came back at him with my sights on his fuselage, and turned loose my death through the blade. He went down with a rush, and I—coming from my dream with a jerk—read the note:

"You have killed my emissary," it read, "but there will soon be another!" "Emissary," I laughed; "he calls that stinking thing, that crawling brute with the fangs that just fit under your jaw an emis——" They led me away; sorrow in their eyes.

No wonder it had all been so uncanny. No wonder the murderer had been able to creep and kill and take our box from the dial from under our gaze. The more I thought about the horrid mess, the more I became convinced that the real brute we fought had somehow changed a human into an animal! A crouching animal that had struck and hidden behind a chest or up in the drapes of George's room; a flitting thing that had been a shadow as it came to the dial for the box.

I was alone in my room with these thoughts, and as I brooded over them more and more, I came to know that the chosen brute of "Aracas" had indeed spoken truth when he said there would soon be another, for it came into my room! Another menagause!! It crossed the floor. It clambered at my bed; or, if it did not, my tortured brain (completely crazy) believed it did!

It came across the covers to me; took me by the throat! I reached lazily to brush it away, but instead, finding it soft and warm and nice to touch, I stroked it. It was not nearly so odious after all, my dazed brain thought. In fact it was so nice that I should not greatly mind if I, too, were a menagause. Slowly I stepped from the bed. Half fighting it, yet eager to do it, I went down on my hands and knees, sniffing,

creeping. On the back of my hands, on my arms, I believed, I saw the hair growing and coarsening and changing to a crinkly fur! I was changing into a beast!! Being transformed into a menagause!

Ebb found me there, snapping and snarling, and it was the last straw to him. He yelled and slumped down along the door-frame. Bess came, but it was too much for her, also. However, my plight acted differently upon her than it had upon the dark man. She may have been as frightened, but something suddenly beat at her heart that had not pounded at Ebb's. And it was her sudden outpouring of other than mothering love that saved me. "It must have been loathsome for her to kiss my furry cheek and lips," I still managed to think as they lifted me, "but she did it." A soothing coolness fanned me. I slept then, a real sleep, the first, it seemed, for years, and I awoke next morning nearly normal. The love of Bess had overpowered the terrible thing that had been gnawing at me.

I had Ebb bring me again that last note we had received, and as before, the moment I had it in my hands I was back at the stick of a ship, with the glint of sun on wing and rudder and singing wire, the roar of engine and blade in my ears. But this time my brain was my own! I lifted that square of linen to my nostrils, and knew on the instant why I had unconsciously, or subconsciously that other time, thought again of my flying days in France. I smelt "dope." Dope, that sheliac-like composition with which airplane wings are coated.

I grabbed the astonished darky by the front of his coat. "Ebb," I fairly shouted, "is there an airplane factory around here?"

"Airplane factory? Good lawd, Boss! Nossir, nossir. Whut would we be doin' wid a—?"

"Ebb, have you ever seen a plane?"

"Yessir."

"Where?"

"Dey fly ovuh real offen—sometimes."

"Did one ever land here, or smash, or anyone ever build one? Is there one in town?"

"Yessir, yessir, dar is. Now I 'member. Young Mr. Brown broke his fool neck in one down on Market Street. It's still dar I reckin in dat ole shed of Grimeses', or leastways it wuz——"

"Ebb, get the car around for me. Don't leave the ladies out of your sight for a moment. Tell Mike what I'm doing. If anything happens to the ladies while I'm gone, I'll murder you both."

The Trap

I went through town like mad, and by the time the police had decided to wonder what some of it was all about, I was peeking into the old shed of Grimes and looking on the wreckage of an old army training plane. Man! I was eager and excited. On the trail at last! The brute who had been using the airplane linen for his notes, and who had no way of knowing that a little "dope" would give him away, lived hereabouts. I would find him, and finding him, would kill him. In this great desire of mine to tear into the cause of all our recent miseries, I had forgotten he was above the average killer.

That part of town had always been taboo to me as a boy, and I was, therefore, not any too well acquainted. But when I saw a dark-skinned man in the long, flowing robes of an East Indian priest standing in the doorway of a squalid house, I knew he was my man. His eyes dragged me on. I went right at him. Without a word, merely the clash of our eyes flinging their hot challenges, he turned and entered the house. I followed. I did realize a bit then that I might be putting my head into a nest of hornets, but I held something in my hand in which I had implicit faith, and all I wanted was to get him within decent range. What did I care, as I followed him in, that he had once before deadened my brain and almost made of me a thing that crept and sniffed across the floor? The gun I held in front of me had no brain to be dazed, knew no difference between a voodooist and an ordinary being.

My first glance into that dim interior showed me that I was in a pet shop, where monkeys and parrots in their cages gibbered away an excuse for this brute to be in a peaceful town pursuing his real, evil trade. On the counter in its cage was an Indian mongoose. It gave me a jerky scare, but next moment I had forgotten it as I approached a heavy curtain that divided the room, and as I came closer to the completion of the work in hand.

I pushed through that curtain, as cautiously as I possibly could, eyes keenly before me. But I was not keen enough. The curtain came down from the ceiling like a heavy, stifling cloud to envelop me in its folds as completely as though I were beneath a load of sand. Hands snatched at me, many hands it seemed, to carefully take me from the tangle and weight of it to bind me securely, hands behind back, and to fling me in a heap against the wall. Then I knew they had me. I had walked into his trap, the curtain had sprung it; and, found like a trussed fowl, I found time to realize what a hot-headed idiot I had been.

I looked around. My pistol was on a table, while four black-skinned and blacker-hearted brutes stood over me. At a sign from their leader the three myrmidons went into a rear room, leaving the priest squatting on the floor before me. When he spoke he used good English and I had no trouble in understanding either his words or his meaning.

"Dog, and twice dog, hear me," he began. "Thou who wouldst interfere with the plans of the 'Chosen of Aracas', as a man thy days are finished. Thy brain hath almost ceased its own functioning. Henceforth thou shalt heed my commands. I had thee in my power once before, knew thou wert almost mine, then—what, I am at a loss to know—something interfered. For the first time my skill was thwarted. Now, nothing shall interfere! Thou art mine. Thou shalt go forth from here with thy man's cunning and brain in an animal body to wipe away the last of that accursed family!"

My brain whirled. I had known it, but as he said it, it was worse than I had fully realized. I, to go out from here at his bidding, to crawl through the night, to hunt the girl I adored, and who loved me, to—to—. I could not think of it. It was too horrible, too devilish! He looked me straight in the eye, and I heard the first of his fiendish incantation. I shut my eyes, but could not keep them so. I opened them, drawn to the magnets of his, to feel the old terror and closeness and liking for the menagause creeping over me.

"They have no 'Green Heart'!" I shouted, in that last flicker or two of my own brain's reasoning. "We've hunted for it. We'd give it to you if we had it. Come to the house. Take—take—anything——you want, but let me go!"

But he was past hearing me. His eyes were shut now, his mumbling and praying—praying me into a furry creature!—roaring and crashing in my ears. I had been through all this once before, so knew by the sensation that enveloped me that he was succeeding in his praying. I knew in a few moments I should be seeing the beast come sneaking in; then I should grow to like it, would reach out for it, would see the hair on my hands and arms before me change to fur, and—

"Bess!" I cried. "Bess! Help me! You saved me before, save me now. I love you, Bess," I whispered like a child; then fell back exhausted. I was nearly gone. And how could Bess help me; how could she save me when she could not even hear me?

I felt that beast come crawling to my wrists behind me, as I knew it would, felt my bonds, strangely enough but part of the whole diabolical proceeding of course, slacken. I brought my arms around into my lap, still not knowing I was free. Then perhaps I realized a bit, for the first time, that instead of the menagause at my bonds it was the mongoose. In the scuffle the cage must have flung to the floor, where it had either broken or the door swung open to release the animal.

Not that I stopped to wonder at these things, for at that moment the priest before me opened his eyes. They bulged when he saw I was no longer tied, really telling me for the first time that I was actually free. He clapped his hands. At once his three servitors rushed back into the room. Then life and thought and the desire to live came to be in a flash, and I leaped to my feet and jumped for the pistol on the table like a snake striking. We all reached for it, but by a hair I got it. Then, with the thing at their breasts, I backed them into a corner. I felt better. It was good to draw, so suddenly, such an ace from the deck. With a wave of the hand the priest gave them an order in their native tongue, then they came at me with their naked knives.

The End Of a Priest

"STAND back!" I ordered. "Tell 'em to stand back, you heathen devil, or I'll tear 'em in two!" But he ignored me, merely urging them onto me. They crept closer until just feet separated us. In a moment they would spring and I would fire. The odds were all in my favor now, and they deserved anything they had coming to them, but why it was that I wished I had not to turn death loose on them is more than I can explain. I wanted to get the priest, but I felt it a bit of a shame to have to slaughter the others.

"Stay back! Not another step. I'll kill you if you—" Then I did it. One sprang at me and I had to. The bullet met him in midair, and not literally but actually hurled him back. It was a large weapon I wielded—a brute of a killer. I knew the man was as good as dead the moment he hit the floor. So, evidently, did he, for he reached into his robes and produced a green, shining object, which he held up to the priest by its golden chain. Like a hawk that "chosen one," hovering near, snatched it. His whole body radiated joy, success, venom.

"Thou dog!" he snarled through his pleasure. "It is the 'Green Heart!' How happens it that thou hast it?"

"The Sahib Taylor—placed it—after—first warning. I—I would place it around the throat of Aracas with—with—mine own hands. I had a box—empty—the one I gave you as being the Sahib's——"

"Dog! Deceiver! Swine!" hissed the priest. He kicked the man full in the face, hurrying him along the road to eternity.

And that kick restored to me a little sense, flung around me a wild killing rage. Everything about that kick and them was horrible. Jeremiah Taylor had delivered the jewel at the first warning, I knew then, but because of the fanatical desire of the man I had shot to return the beastly jewel to the sacred throat with his own hands, three innocent lives had been taken, two girls had been to the brink of insanity through fear; while I had been closer than at knife's edge to being prayed into an animal that crawled and sniffed and punctured!

The priest gave another order, to hold me at bay I suppose, then quick as a flash, passed out the rear door. The two men sprang at me. I met the first with a bullet just as I had his filthy pal, but the other pinned me to the wall, his hand to my throat, while his knife arm flashed back for the stroke. I pressed my pistol into his side and let it go; then stepped across his body to follow the priest.

The back of those houses overhung the river, the rear porches built on stilts, like huge spider legs, over the deep drop. The priest was scaling the railing of a porch some thirty feet away. A simple, vengeful shot. I brought my sights down onto his back. The pistol spat its hate. The devil was reaching for a hold above him as my shot rang out. Twice his fingers clutched for a hold, twice they missed. Then he wavered, hung a bit, clutched again, missed completely. I leaned out over my rail to watch his whirling flight to the river below, feeling as he plunged that this world was suddenly cleaner, and that the gates of hell were clanking open for him. As he went over and over, I saw a green thing, hanging by its golden chain from his tightly clenched hand, go whirling as he whirled.

Back through the house I staggered to find the front pavement bobbing and tossing and plunging as the priest had plunged. Then it came up spitefully at me, hit me—and I was in a machine with someone's loving arms closely holding me when next I knew what was going on. I was weak, but it was a gentle, soothing weakness, and my mind was free, my heart full.

"Are you all right?" asked the splendid girl in whose love I was smothering.

"Just as well as you hope I am, Bess darling," I replied. "The priest is gone; the jewel is gone; your troubles are over. Everything but our love."

THE END

Between Earth and Moon

(*Continued from Page 59*)

In the hall of the Allister house, the same hall in which a month ago the friends of the rocket had been seized with despair, a small group of notables was assembled.

About the house surged the happy shouting mob.

"Hurrah for Allister!"

"Hurrah for Apel and Egon Helmstätter!"

And then there was a still louder shout: "Hurrah for the United States of America, and hurrah for Germany!"

"Mr. All Right, one hundred thousand dollars for the first report."

Mr. Barret, the owner of the New York *Evening Ledger*, was holding out a check to the invalid.

Another pushed him aside.

"The New York *Bulletin* offers a quarter of a million."

Barret scribbled fast. "You are employed by me, and I too will give a quarter of a million."

Others crowded about Korus, but he declined their offers.

"Only Germany gets my first report."

Barret climbed up on a table. "One moment, gentlemen. Permit me a word. It is self-evident that the entire world, and America first, has a claim on the five travellers of space. It will be a triumphal journey like no other before. I will conduct it. If you pledge yourselves for a half year, I will take you all over the world and pay you any sum you want."

Now Egon jumped on another table. He had hardly spoken since leaving the rocket.

"I thank you. In the general rejoicing for us, what else could we five say but 'I thank you'? What Mr. Korus and Mr. All Right want to do is their own concern. They are journalists and stand in the public eye. But I and my fatherly friend Waldemar Apel are going to fly to Atkinson Peak to-day. Fate has been kind enough to let us return home. Now it is our duty to work out scientifically what mankind can benefit from as the result of our trip. I thank you, but at present we have no time to give to celebrations."

The President of the United States pressed Egon's hand. "You are in truth a real hero."

Egon smiled. "Perhaps I am only a thorough German."

The ambassador of his native land pressed him to his heart. "Let us rather say, a true German."

On the flat roof of the Allister house an airplane was waiting. It was a large plane which America presented to Egon to welcome his return.

Apel was already sitting in it. Likewise Joe Allister, who was of course accompanying the two with his daughter.

Then a strange gentleman came up the steps. It was an elderly gentleman in a black suit.

Allister smiled, as he now said, "The Reverend Mr. Thompson will accompany us."

Irene Allister blushed and clung to her father, while the latter pressed Egon's right hand.

"I think we shall have to celebrate a little wedding at Atkinson Peak."

While the airplane was rising upward, the loudspeakers all over the earth were announcing the return of the first persons who had succeeded in reaching the moon and the fortunate arrival of the space rocket.

THE END

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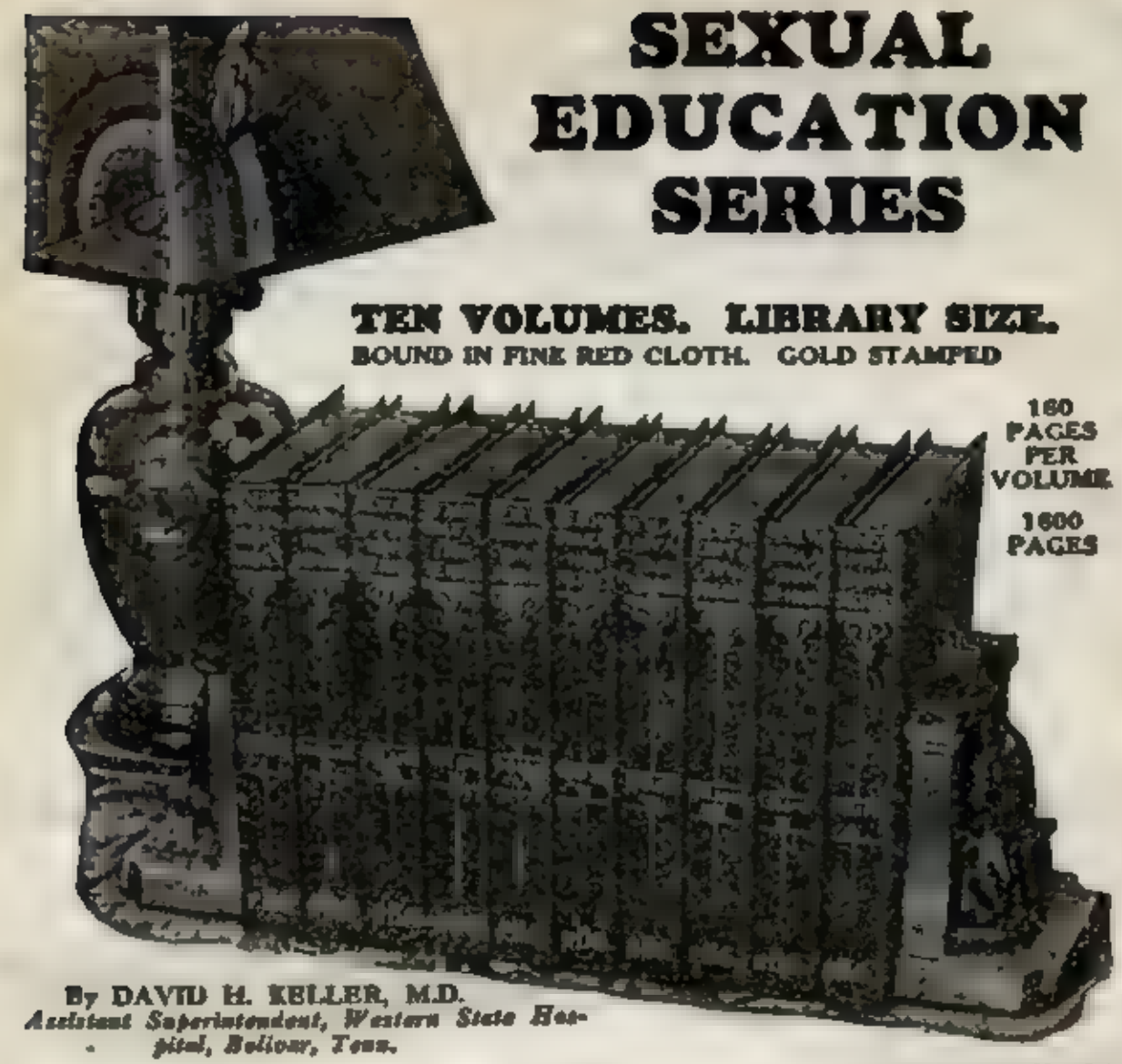

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The Reader Speaks

In SCIENCE WONDER QUARTERLY only letters that refer to stories published in the QUARTERLY will be printed.

Four Stories Rated

Editor, Wonder Stories Quarterly:

I am a fourteen-year-old boy and am a very enthusiastic reader of your magazines. I have read your WONDER STORIES QUARTERLY ever since it has been published. Of the main stories in your first four issues, I rank as follows:

(1) Moon Conquerors.
(2) The Stone From The Moon.
(3) Electropolis.
(4) The Shot Into Infinity.

Your artist, Paul, is wonderful. His illustrations are vivid and original.

Are any of the German scientific films going to be shown in America?

Lester Carlson,
1314 Cherry St., Aberdeen, Wash.

(We have received letters from readers in which practically all of the feature stories in the first four issues of the QUARTERLY received the highest rating. We would like to get some more comments from our readers. Here we have four giant stories. Which is the best according to your opinion?

We have information that an interplanetary film, "The Girl From the Moon" filmed by the UFA company of Germany is to come to America soon. The picture has been practically completed, and it is even expected that sound or talking sequences will be a part of this great experiment in motion pictures. We will inform our readers just as soon as we have exact information about the date at which the picture will be exhibited.—*Editor*)

On Utopias

Editor, Wonder Stories Quarterly:

After reading Lilith Lorraine's "Into The 28th Century" I have come to the conclusion that there can never be an Utopia. Incidently the author mentions in a certain part that the inhabitants of the future world spoke of a stomach ache as if it were a matter of international concern. Would this not prove that of the easier living conditions existed, the people would correspondingly soften? If a person of the middle ages, when sanitary conditions were "null and void", when religious freedom was unknown, when war and blood shed were every day occurrences, were to be placed in a modern civilization, would he not consider it an Utopia? It is only when the soul of man is able to realize his blessings that there will be an Utopia.

Charles Rush, Jr.,
2665 Grand Concourse,
New York.

(Mr. Rush puts a very interesting question to us: There is a lot to be said for his point of view—that if life is made too easy for us we will soften and degenerate and go the way of Babylon, Egypt, Rome and many other great civilizations.

It is really necessary for each civilization to provide its own antidote for the evils that might be a part of the pleasant state of life that Miss Lorraine pictured in her "Into the 28th Century". Miss Lorraine herself had pointed out some of the possibilities. Athletics, sports, exercise of the

(*Continued on Page* 139)

The Reader Speaks

(*Continued from Page 138*)

body are all considered in her Utopia to be a part of the life of the people. Thus the people keep physically active, their minds remain alert, they feel in another form the enlivening spirit of competition.

Some of the militarists say that war is a necessary part of our lives, for without the awakening of the warlike spirit every so often, man will degenerate. Others agree with the militarists but say that in strenuous competitive sports man can work off the energy that he would use in war. What do our readers think?—*Editor*)

From A Youthful Savant

Editor, Wonder Stories Quarterly:

Just received my first copy of WONDER STORIES QUARTERLY and I'll say it was fine. R. H. Romans' "War of Planets," although good, didn't make it that way, neither did "Electropolis".

Henrik Dahl Juve's "Monsters of Neptune" pulled the issue up above the mark. There was nothing wrong with it except that question of gravity. Neptune may weigh less, volume by volume, than earth, but there is plenty of it on Neptune. I think the gravity would be very great.

Juve's story had humor, and so did "Moon Rays," by Keller, M.D. The best humorous story in your Wonder magazines was "Flannelcake's Invention," in "Air Wonder." Speaking of humor, why don't you bother Edward Elmer Smith, Ph.D., for a good one?

A while back you asked opinions on time traveling. I don't think it's possible. If it could be done, it would only be into the future. I'm only 15 year old, so you needn't take the following seriously:

The three Attributes of Infinity are: time, space and motion. Space has three dimensions; so have time and motion. Matter is but a fold or "bump" between space and motion, with Time as a constant. The first three dimensions are contained in space, the fourth, fifth and sixth in time, the seventh, eighth and ninth in motion. One of the dimensions of motion reaches into all dimensions below it, and so there is motion in time dimensions and space dimensions. One of time's dimensions reaches into space, so matter, while it may have motion in space, has motion in one of the dimensions of time also. To travel in time, jump over into another dimension and bounce back.

That's one of the "twisters" in my brainstorm. I haven't finished thinking it out yet (!) but that's the main structure of it. I wrote a story about it, but copied too many other authors. Now I'm on a short story of about 3,000 words and assuming a future of so many years instead of sending the hero through time.

Concerning atomic energy: I believe it possible, not by breaking down atoms and getting the energy of the rushing electrons, but by letting elements combine, producing rays as molecules produce heat when combining, and thus expanding, as compound-molecular gas does under heat. Atoms when combining would probably produce X-rays of terrific force.

Some authors say nothing can go faster than light. How about electrons in a Coolidge tube, going well over 250,000 miles per second?

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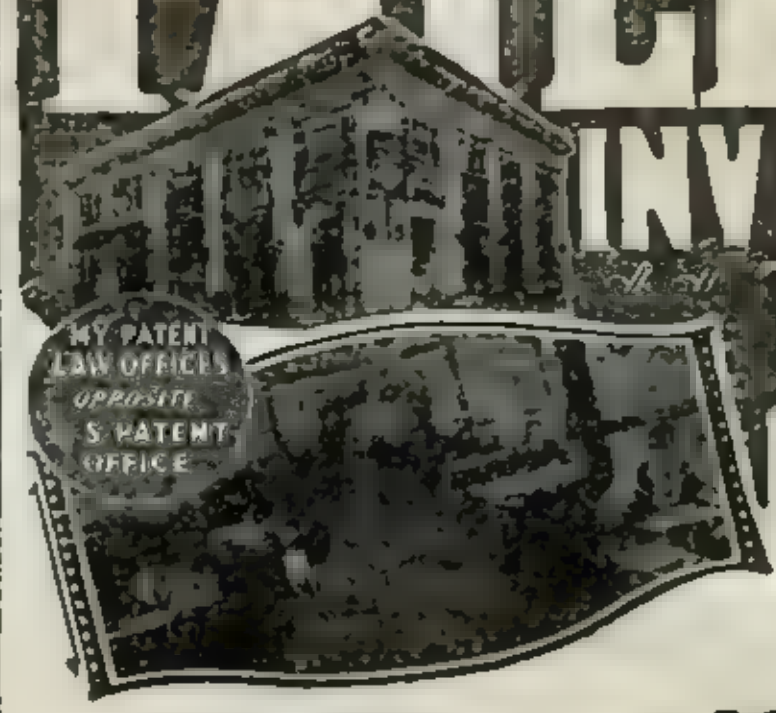

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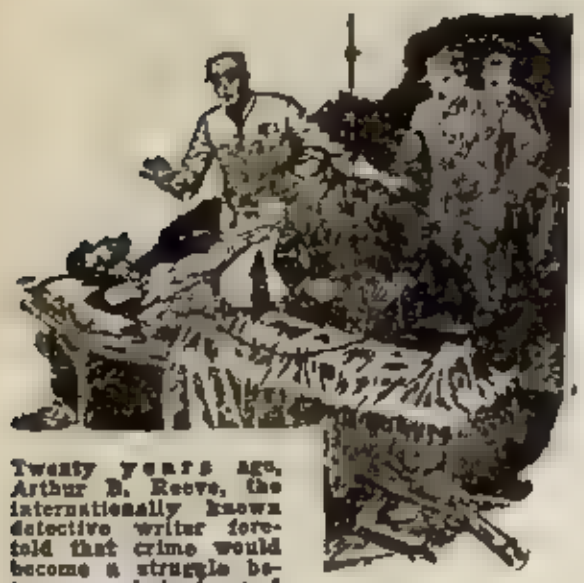

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The Man Who Was Dead by Arthur B. Reeve

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OTHER STORIES IN THE OCTOBER ISSUE

THE CAREWE MURDER MYSTERY by Ed Earl Repp
DEATH IN A DROP by Ralph Wilkins
THE MAN IN ROOM 18 by Otis Adelbert Kline
THE CLASP OF DOOM by Eugene De Reszke

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The Reader Speaks

(*Continued from Page 139*)

Like Nikola Tesla, I don't believe light or any other ray travels in waves through the "ether". I believe that rays are waves of motion escaping from matter.

Concerning gravity: Gravity is an electro-magnetic wave which in empty space would vibrate in all directions, but in the presence of a body of matter, has some vibrations interfered with. Two bodies interfere with part of these vibrations, and, as the balance of energy is disturbed, the bodies are pushed together. Theoretically, gravity can be artificially interfered with. Probably, it most certainly will be done. My new story deals with a force giving effects like gravity, but not quite the same. I'm not ready for gravity stories yet. A fictitious force I can prescribe rules for, but an actual, well known force, not for a while will I tamper with on paper.

Harold Gibson,
Granger, Ind.

(We have an almost complete picture of his conception of our universe presented to us in young Mr. Gibson's letter. We are proud to have our youthful readers such serious thinkers on the problems of the cosmos.

Speaking on the possibility of releasing atomic energy, Dr. Milliken stated that it will come about not by breaking down the atom, but by constructing atoms from others. In this Mr. Gibson agrees—that the energy in the atom, possible to use, is not the energy of the rushing electrons but a difference of inherent energy released when an atom of one element is changed into another element. Thus in his "Rescue From Jupiter," Mr. Gawain Edwards had his inventors break down hydrogen and build up nitrogen atoms.

Mr. Gibson is wrong in stating that the electrons from a Coolidge tube travel at 250,000 miles per second. The figure, we believe, is 150,000 miles per second.—*Editor*)

Science Fiction Week—Every Week!

Editor, Wonder Stories Quarterly:

I am writing this letter to express my thanks to you for awarding me the second prize in the second QUARTERLY contest. You may be sure I appreciate the honor a great deal. . .

The check has enabled me to start work upon my plans for next year's SCIENCE FICTION WEEK. I am quite sure that you will co-operate with me again, and I hope that other Science Fiction Magazines will do so also. . .

You may be sure that I shall not leave off my work toward improving Science Fiction because I won the prize, on the contrary, I am being spurred on toward even greater efforts. . .

Conrad H. Ruppert,
12 Hillside Court,
Jamaica, N. Y.

(We are sure that Mr. Ruppert will continue his good work in behalf on science fiction. But science fiction week can be every week. By constantly talking this new literature to friends and relatives, they are converted, and so like a snowball the movement gains momentum.—*Editor*)

(*Continued on Page 141*)

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Be sure to read the interesting announcement on page 142 of this issue—if your subscription to WONDER STORIES QUARTERLY expires shortly.

The Reader Speaks

(*Continued from Page* 140)

A New Friend

Editor, Wonder Stories Quarterly:

I've heard of candy fiends and many other types, but I am a new kind. I'm a WONDER STORIES QUARTERLY fiend! And how can I help it with that wonderful silver illustration on the front drawn by Paul? You can't blame me.

It seems to me that every issue of "our" QUARTERLY gets better (if such a thing is possible as they are all perfect).

I am glad to see that Dr. Heller's story, "The Moon Rays" is in this QUARTERLY as it was supposed to be in the last one but was evidently crowded out.

"The Eternal Man" was one of the best short stories I ever read and I am delighted to see that you have secured a sequel to it.

Henrik Dahl Juve always writes good stories and "The Monsters of Neptune" promises to be one of his best.

All of the other stories including the sequel to "The Moon Conquerors" and "Electropolis" are thrillingly illustrated and I am sure will be very exciting.

I want to thank you for taking my suggestion of printing a list of motion pictures with scientific backgrounds and would like to start off your list with the following two: "High Treason" (a story of life, love and war in the future) and Jules Verne's "The Mysterious Island."

And now, as usual, I would like to ask you a question, or rather, two of them.

First: How fast would it be necessary to travel in order to always see the sun in the same position?

Second: If a man were to swallow a piece of radium what would happen to him? Would he immediately shrivel up and die or would it take some time and if the radium were left in his body what would become of it? (the body).

Forrest J. Ackerman,
530 Staples Avenue,
San Francisco, Calif.

(We can add to Mr. Ackerman's list of motion pictures of science fiction, "Metropolis" a story of the future which was exhibited several years ago, and "The Girl From the Moon" the showing of which is promised to America soon by UFA of Germany. We would appreciate additions to this list by our readers for the benefit of all.

Regarding Mr. Ackerman's questions—if a man were to travel westward along the equator at 1,000 miles an hour (approximately) he would always see the sun in the same position. If he started when the sun were overhead, it would be perpetual noon for him.

Radium would probably destroy one's bodily tissues and even the bones. The use of radium in cancer is based on the ability of radium to eat out the cancer cell. When swallowed, of course, the radium would eat up everything. Physically at least the radium would break down the tissue into its basic elements. The time it would take would depend on the amount swallowed. Death might occur before any appreciable amount of the tissue had been destroyed.—*Editor*)

(*Continued on Page* 142)

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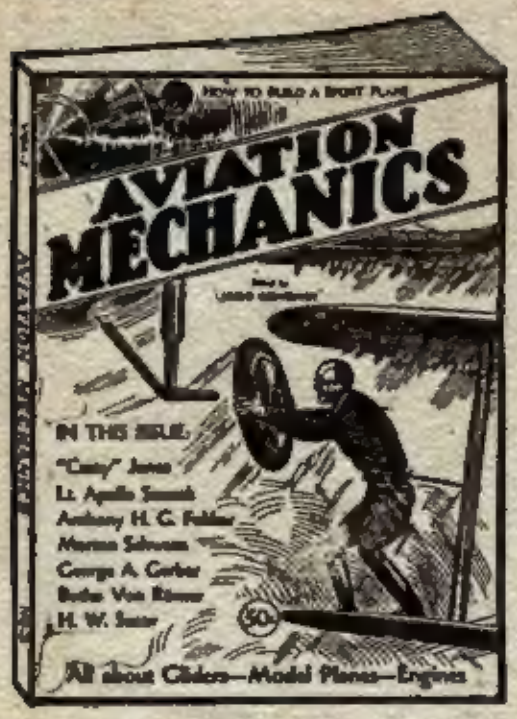

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Announcement

An interesting announcement of the home work shop magazine is to be found on page 144 of this issue. Turn to it before you forget and learn the important facts of how you can turn many hours of your spare time into making money for you. It's a real big thing and you will be surprised. TURN TO IT NOW!

The Reader Speaks

(*Continued from Page* 141)

Two Home Runs

Editor, Wonder Stories Quarterly:

The W S Q has made another home run. It has produced a masterpiece in every issue. Otto Willi Gail is the Babe Ruth on the Gernsback team. His two famous home runs, "A Shot in Infinity" and "The Stone from the Moon" will never be forgotten in the Science Fiction World and I hope our young American authors will read and learn how to write *real stories*. They seem to have a good imagination but they don't seem to be able to "nail" it down to scientific facts.

For example take Henrik Dahl Juve's "The Monsters of Neptune;" a very good story but it's not "nailed" on scientific facts. In his story he overlooked the fact that the gravity is so much greater than ours that our explorers would be almost glued to the ground and wouldn't be able to move.

The "Moon Conquerors" by R. H. Romans is a very difficult story to judge, the start or first part of the story was perfect but my interest dropped when he started to give some Ancient History. But still it was better than the average stories. I hope he will give us a sequel to "The War of the Planets."

Read These Thrilling Stories in the October Issue of

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By C. R. Sumner
The dreadful power of a beautiful blossom of Nature

THE MAN WHO WAS DEAD
By Arthur B. Reeve
Unlocking the dead man's lips to unravel a mystery

DEATH IN A DROP
By Ralph W. Wilkins
Professor Macklin solves a new impossible crime"

THE CLASP OF DOOM
By Eugene De Reszke
His touch was death . . .this modern Borgia

MURDER IN THE FOURTH DIMENSION
By Clark Ashton Smith
The most bizarre murder ever committed

THE MOST DANGEROUS OF FORGERIES
By Dr. Edmond Locard
This famous criminologist gives us the "inside story" of daring criminals gambling with their skill for fortunes.

And other stories and features in this unusual issue

"Electropolis" by Otfrid von Hanstein was perfect but he left enough material to make a good sequel. I can hardly wait for his next story.

Why is it that you print only stories by American and German authors? How about the Russian, French and English? Why not give them a break, I know that they write wonderful science fiction. Know it looks like the Germans have the whole floor to themselves—but understand, I'm not tired of German goods—they're too good.

(*Continued on Page* 143)

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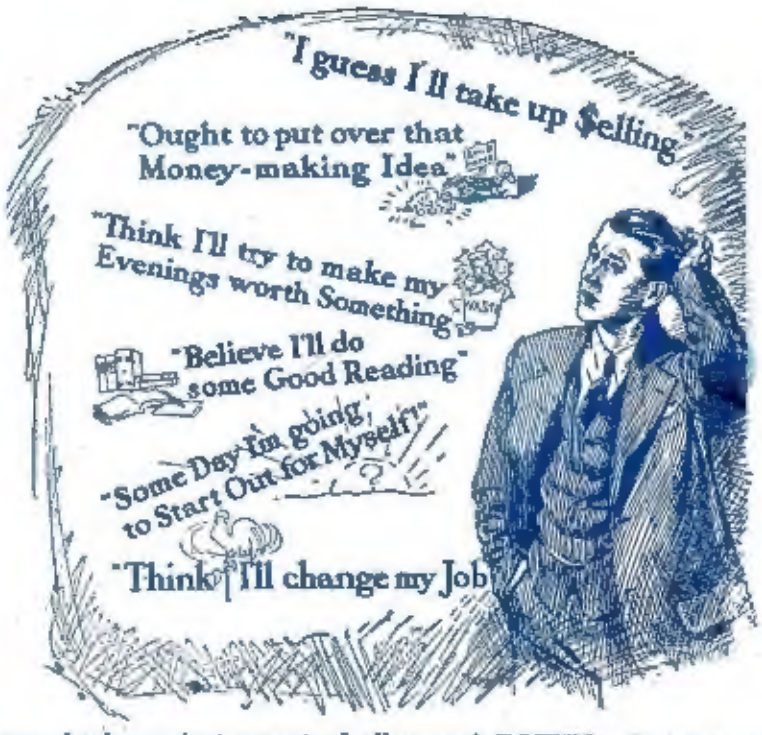

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